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AMERICA'S DIET: ARE WE LOSING THE WAR
AGAINST CANCER?

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America's Diet: Are We Losing the W...

HEARING
BEFORE THE
HUMAN RESOURCES AND INTERGOVERNMENTAL
RELATIONS SUBCOMMITTEE
OF THE
COMMITTEE ON
GOVERNMENT OPERATIONS
HOUSE OF REPRESENTATIVES
ONE HUNDRED THIRD CONGRESS
FIRST SESSION

SEPTEMBER 13, 1993

Printed for the use of the Committee on Government Operations



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AMERICA'S DIET: ARE WE LOSING THE WAR AGAINST CANCER?

MONDAY, SEPTEMBER 13, 1993

HOUSE OF REPRESENTATIVES,
HUMAN RESOURCES AND
INTERGOVERNMENTAL RELATIONS SUBCOMMITTEE
OF THE COMMITTEE ON GOVERNMENT OPERATIONS,
Washington, DC.

The subcommittee met, pursuant to notice, at 11 a.m., in room 2247, Rayburn House Office Building, Hon. Edolphus Towns (chairman of the subcommittee) presiding.

Present: Representatives Edolphus Towns and Bernard Sanders.

Also present: Ronald A. Stroman, staff director; Allegra A. Pacheco, professional staff member; Martine M. DiCroce, clerk; and Martha Morgan, minority professional staff, Committee on Government Operations.

OPENING STATEMENT OF CHAIRMAN TOWNS

Mr. TOWNS. The Committee on Government Operations, Human Resources and Intergovernmental Relations Subcommittee will come to order.

Today is an historic day. Peace in the Middle East is finally being achieved. However, while this peace agreement may put an end to the battles of the Middle East, our war against cancer continues.

Cancer is becoming the Nation's greatest medical epidemic. It comprises almost 2 percent of our GNP. It costs over \$100 billion in health care. It strikes one in three Americans. It kills over half a million Americans each year.

This year, we provided the National Cancer Institute with almost \$2 billion in their budget, and what did we come up with? An incidence rate of cancer that has increased by 32 percent in the last decade; a statistic that cancer is set to become the leading cause of death by the year 2000—less than 7 years from now; and a confession by NCI's Director that the death rate from cancer in African-Americans and other minority populations due to totally preventable cancers is, catastrophic. Almost \$2 billion to NCI, and more and more Americans are getting cancer.

This concerns me personally. I come from a family of four, where my mother, father, and younger brother all died from cancer.

Our war on cancer is not nearing victory. It doesn't even seem close. That is because our national cancer strategy is devoted more to developing high-priced treatments and elaborate cures rather than eliminating the epidemic from our society.

We will win the war against cancer when we begin to reduce the incidence of cancer in this country—not by treating it, curing it, or mitigating it—but by preventing it in the first place. In this period of health care reform and progressive science, prevention must take priority. As Dr. Samuel Broder, the Director of NCI has stated, “prevention is the most cost-effective approach to cancer.”

Unfortunately, primary prevention remains a low priority at our national cancer research center. Out of a \$2.1 billion budget, NCI states that it spends \$334 million on primary prevention—15 percent of its entire budget. Most of NCI’s funding goes toward diagnosis, treatment, and cures, which are important, but not more important than preventing Americans from getting cancer in the first place.

This week is the National 5-A-Day for Better Health Week—a good start by NCI and the produce industry to tell Americans that they can reduce one-third of all cancers by incorporating more fruits and vegetables into their daily diet. Yet NCI allocated \$4 million this year to the 5-A-Day Program—a mere two-tenths of 1 percent of its budget. This is not enough. The prevention message must be louder. It must be clearer. And it must move a lot faster.

The priorities must change. Today, the priority is prevention, and this must manifest itself in a monumental shift of funding and resources. The Federal Government can begin to do this by integrating NCI’s dietary recommendations into Federal feeding programs: In this way, one-sixth of all Americans will be able to improve their diet, almost overnight. NCI can do this by shifting its focus on primary prevention and control. Not enough Americans are aware of the extensive link between diet and cancer. The message must get out.

We must inform Americans that cancer is not a mysterious or inevitable disease—that Americans can prevent many cancers just by taking actions themselves—increasing their intake of fruits and vegetables, reducing fat, eating fiber.

This hearing is one of many forums we hope will be established to tell Americans that cancer is preventable. Today, we will emphasize the cancer prevention message, examine the administration’s cancer strategy and explore ways to expand cancer prevention and integrate NCI’s dietary recommendations into our national cancer strategy.

As you can see from the witness list, we have an ambitious agenda, and I ask for everyone’s cooperation in adhering to the 5-minute rule.

I look forward to hearing from all of our distinguished witnesses. [The prepared statement of Mr. Towns follows:]

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OPENING STATEMENT OF THE HONORABLE EDOLPHUS TOWNS, CHAIRMAN SUBCOMMITTEE ON HUMAN RESOURCES AND INTERGOVERNMENTAL RELATIONS

"AMERICA'S DIET: ARE WE LOSING THE WAR AGAINST CANCER?"

SEPTEMBER 13, 1993

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TODAY IS AN HISTORIC DAY -- PEACE IN THE MIDDLE EAST IS FINALLY BEING ACHIEVED. HOWEVER, WHILE THIS PEACE AGREEMENT MAY PUT AN END TO THE BATTLES OF THE MIDDLE EAST, OUR WAR AGAINST CANCER CONTINUES.

CANCER IS BECOMING OUR NATION'S GREATEST MEDICAL EPIDEMIC. IT COMPRISES ALMOST 2% OF OUR GNP. IT COSTS OVER \$100 BILLION IN HEALTH CARE. IT STRIKES ONE IN THREE AMERICANS. IT KILLS OVER HALF A MILLION AMERICANS EACH YEAR.

THIS YEAR, WE PROVIDED THE NATIONAL CANCER INSTITUTE WITH ALMOST 2 BILLION DOLLARS AND WHAT DID WE COME UP WITH?

-- A INCIDENCE RATE OF CANCER THAT HAS INCREASED BY 32% IN THE LAST DECADE;

- A STATISTIC THAT CANCER IS SET TO BECOME THE LEADING CAUSE OF DEATH BY THE YEAR 2000, LESS THAN SEVEN YEARS FROM NOW; AND
- A CONFESSION BY NCI'S DIRECTOR THAT THE DEATH RATE FROM CANCER IN AFRICAN-AMERICANS AND OTHER MINORITY POPULATIONS, DUE TO TOTALLY PREVENTABLE CANCERS IS CATASTROPHIC.

ALMOST TWO BILLION DOLLARS TO NCI AND MORE AND MORE AMERICANS ARE GETTING CANCER. OUR WAR ON CANCER IS NOT NEARING VICTORY; IT DOESN'T EVEN SEEM CLOSE. THAT IS BECAUSE OUR NATIONAL CANCER STRATEGY IS DEVOTED MORE TO DEVELOPING HIGH-PRICED TREATMENTS AND ELABORATE CURES, RATHER THAN ELIMINATING THE EPIDEMIC FROM OUR SOCIETY.

WE WILL WIN THE WAR ON CANCER WHEN WE BEGIN TO REDUCE THE INCIDENCE OF CANCER IN THIS COUNTRY -- NOT BY TREATING IT, CURING IT, OR MITIGATING IT -- BUT BY PREVENTING IT IN THE FIRST PLACE. IN THIS PERIOD OF HEALTH CARE REFORM AND PROGRESSIVE SCIENCE, PREVENTION MUST TAKE PRIORITY. AS DR. SAMUEL BRODER, THE DIRECTOR OF NCI HAS STATED, PREVENTION IS THE MOST COST-EFFECTIVE APPROACH TO CANCER.

UNFORTUNATELY, PRIMARY PREVENTION REMAINS A LOW PRIORITY AT OUR NATIONAL CANCER RESEARCH CENTER. OUT OF A 2.1 BILLION DOLLAR BUDGET, THE NATIONAL CANCER INSTITUTE STATES THAT IT SPENDS \$334 MILLION ON PRIMARY PREVENTION -- 15% OF NCI'S ENTIRE BUDGET. MOST

OF NCI'S FUNDING GOES TOWARDS, DIAGNOSIS, TREATMENT AND CURES, WHICH ARE IMPORTANT, BUT NOT MORE IMPORTANT THAN PREVENTING AMERICANS FROM GETTING CANCER IN THE FIRST PLACE.

THIS WEEK IS THE NATIONAL FIVE-A-DAY FOR BETTER HEALTH WEEK -- A GOOD START BY NCI AND THE PRODUCE INDUSTRY TO TELL AMERICANS THAT THEY CAN REDUCE ONE-THIRD OF ALL CANCERS BY INCORPORATING MORE FRUITS AND VEGETABLES INTO THEIR DAILY DIET. YET NCI ALLOCATED 4 MILLION DOLLARS THIS YEAR TO THE FIVE-A-DAY PROGRAM -- A MERE TWO-TENTHS OF A PERCENT OF ITS BUDGET. THIS IS NOT ENOUGH. THE PREVENTION MESSAGE MUST BE LOUDER.

THE PRIORITIES MUST CHANGE. TODAY, THE PRIORITY IS PREVENTION AND THIS MUST MANIFEST ITSELF IN A MONUMENTAL SHIFT OF FUNDING AND RESOURCES. THE GOVERNMENT CAN BEGIN TO DO THIS BY INTEGRATING NCI'S DIETARY RECOMMENDATIONS INTO FEDERAL FEEDING PROGRAMS. IN THIS WAY, ONE-SIXTH OF ALL AMERICANS WILL BE ABLE TO IMPROVE THEIR DIET, ALMOST OVERNIGHT. NCI CAN DO THIS BY SHIFTING ITS FOCUS ON PRIMARY PREVENTION AND CONTROL. NOT ENOUGH AMERICANS ARE AWARE OF THE EXTENSIVE LINK BETWEEN DIET AND CANCER. THE MESSAGE MUST GET OUT.

WE MUST INFORM AMERICANS THAT CANCER IS NOT A MYSTERIOUS OR INEVITABLE DISEASE -- THAT AMERICANS CAN PREVENT MANY CANCERS JUST BY TAKING ACTIONS THEMSELVES -- INCREASING THEIR INTAKE OF FRUITS AND VEGETABLES, REDUCING FAT, EATING FIBER.

THIS HEARING IS ONE OF MANY FORUMS WE HOPE WILL BE ESTABLISHED TO TELL AMERICANS THAT CANCER IS PREVENTABLE. TODAY, WE WILL EMPHASIZE THE CANCER PREVENTION MESSAGE, EXAMINE THE ADMINISTRATION'S CANCER STRATEGY AND EXPLORE WAYS TO EXPAND CANCER PREVENTION AND INTEGRATE NCI'S DIETARY RECOMMENDATIONS INTO OUR NATIONAL CANCER STRATEGY.

Mr. TOWNS. Before I move forward, I would like to yield to a gentleman in the forefront for many, many years, and who has had a lot to do with this subcommittee focusing on cancer. Mr. Sanders.

Mr. SANDERS. Mr. Chairman, thank you very much.

Let me congratulate you and your staff for the excellent job you have done in organizing this hearing. I know that you have been concerned for many years about the high rate of cancer in minority communities and the problem in general. I have been concerned about the very high rate of cancer in the Northeast and in the State of Vermont among farmers and other people.

Let me mention that I consider this topic so very important that on October 2 in my State of Vermont, we are going to be holding a cancer prevention conference, because I think the theme of what we are trying to do here today is get the word out to the American public in a better way than has been done in the past.

As the chairman just indicated, we may not know the specific cause of many cancers, but we do have a great deal of information that suggests that many cancers are preventable. We have got to do a better job at getting the information out that we already have, that many researchers have already established.

We are delighted that Dr. Greenwald, for example, will be visiting us in Vermont for that conference.

My interest in this whole topic came several years ago when we noted the high rate of cancer in Vermont and in New England, and we did not even have a national cancer registry. I am very happy to say we have made some progress in recent years. Last year we passed the National Cancer Registry Act of 1992, which begins for the first time to allow 50 States in this country to begin documenting who is getting cancer, how effective the treatment is, and where people are working. That is information that is long overdue, and I am delighted that we are beginning to get that information.

The most important message I think we can deliver from this hearing today is that by making changes in the way we live and by cleaning up our environment, we can dramatically improve our chances of preventing cancer. In fact, the National Cancer Institute reports that much of cancer incidence, perhaps as much as 50 percent or more, can be prevented by avoiding tobacco and changing dietary habits alone.

We have done a reasonably good job at getting the word out on problems with smoking and tobacco. We have not done a particularly good job at getting out the word about relationships between dietary habits and cancer.

A great deal of evidence is at our disposal. As Assistant Secretary of Health Dr. Philip Lee wrote to me recently, "Preventing the incidence of cancer is becoming a realistic goal. We know that environmental and occupational exposures to carcinogens contribute to cancer incidence in humans."

Further, we have known since the Surgeon General's Report on Nutrition and Health in 1988, that there is broad agreement about the connection between diet and cancer. Americans will be surprised to learn that an improper diet is the number two killer of Americans, causing an estimated 30 percent of heart disease deaths and an estimated 35 percent of cancer deaths.

While the experts know that a change in diet can prevent Americans from getting cancer, I doubt very much that the average American is fully aware of that fact.

This hearing will begin the process of educating Americans about the relationship between diet and cancer prevention, but we have to do a lot more than just issue and disseminate the existing dietary recommendations. We need a national diet and cancer prevention strategy. This strategy must coordinate the public and private sectors with the medical community to implement a comprehensive education and intervention policy throughout all levels of our society.

We must consider how to implement dietary recommendations on all levels of the government. Should we require our health care delivery system to also deliver this important message on nutrition? And if so, whose responsibility is it to reach out to everyone? That is a very important question.

At the very least, we should mandate dietary recommendations in K through 12th grade, and in health care facilities and in medical schools. Amazingly enough, we still have many medical schools in this country not adequately involved in the issue of nutrition and health and certainly dietary cancer.

Most Americans are afraid and confused about cancer. Few, if any are aware of ways to reduce the risk of getting this disease. From tobacco to diet to environmental and occupational exposures to carcinogens, there is ample information that we can deliver to the public through outreach, intervention, and educational programs.

I am working on a legislative initiative that will enhance disease prevention efforts by involving ordinary citizens in the dissemination of information in their community. It is our responsibility to work with the public to deliver these prevention programs and to take the lead in making our food, water, and workplace safe.

In conclusion, once again, I want to congratulate Chairman Towns for this hearing and thank our very knowledgeable witnesses for coming forward. We pledge to work with you on an ongoing basis to get the word out to the American people that many cancers can be preventable and we have got to work on that.

Thank you all very much.

Mr. TOWNS. Thank you very much.

[The prepared statement of Mr. Sanders follows:]

Hearing on Diet and Cancer

Opening Remarks by Rep. Bernard Sanders September 13, 1993

Let me begin by congratulating Chairman Towns for recognizing the need for furthering the role of primary prevention in our nation's cancer strategy. You and I discussed this issue a couple months ago, and I want to congratulate your staff for pushing this idea forward. Let me mention at this point that I consider this issue so important that my office is organizing a major cancer conference in my state on cancer prevention. This issue is so terribly important to me that it strikes me as imperative that we get the word out to our fellow citizens about the latest information available on cancer prevention. At this point I would like to include for the record an outline of the hearing we are having in Vermont. I am delighted that Dr. Greenwald will be joining us in Vermont for this important conference.

Let me explain my interest in cancer prevention. Last year many breast cancer survivors from my state of Vermont came to me expressing their fear over the alarming rates of breast cancer in our state. Further research pointed out that it was not just the state of Vermont that had high mortality rates for breast cancer, but the entire Northeast and Mid-Atlantic region. My immediate reaction was to ask, "why?" "Why such high rates, and how could we begin to prevent this tragedy?" I was in disbelief when I learned that there was no Vermont state registry that could track just who was getting breast cancer, or any cancer for that matter.

Amazingly enough, I later learned that over half the states either lacked a cancer registry or had inadequate registries that failed to cover their entire cancer population. How could my state, or the dozens of other states without a cancer registry, trace possible environmental contaminations to cancers? How could we discover if certain communities were at higher risks of getting cancer, or comprehend which occupations in the state had a higher incidence of cancer? But most importantly, how could our health officials most effectively examine our cancer control and intervention strategies in the state?

Last year I wrote the Cancer Registries Amendment Act of 1992 and with the help of many Members of Congress, health officials, and thousands of concerned activists around this country, the bill passed into law. This legislation gives states the resources to build and expand on their cancer

registries, and in the longer term, begin to prevent and control cancer. President Clinton showed his commitment to cancer prevention by providing funding for the Cancer Registries in his budget that was presented to Congress.

We need the President to continue that commitment to cancer prevention, because the truth is that we are not doing a good job at preventing cancer in America. Since 1950, the incidence rates for all cancers have increased by 44 percent with even higher incidence rates for certain cancers like breast and prostate. Today one in three Americans will get cancer and one in four will die from cancer. These are frightening figures. I believe that if we have the courage to utilize the information that we already have, we have a real opportunity to reduce the cancer incidence rates.

The most important message we can deliver from this hearing today is that by making changes in the way we live and by cleaning up our environment, we can dramatically improve our chances of preventing cancer. In fact, the National Cancer Institute reports that much of cancer incidence, perhaps as much as 50 percent or more, can be prevented by avoiding tobacco and changing dietary habits alone.

This hearing today is an effort to give a boost to our panelist's efforts and to our nation's strategy to prevent cancer. A great deal of evidence is at our disposal, and as Assistant Secretary for Health, Dr. Philip Lee wrote to me recently, "preventing the incidence of cancer is becoming a realistic goal." Dr. Lee went on to add, "we know that environmental and occupational exposures to carcinogens contribute to cancer risks in humans." Further, we have known since the Surgeon General's Report on Nutrition and Health in 1988 that there is broad agreement about the connection between diet and cancer. Americans will be surprised to learn -- that an improper diet is the number 2 killer of Americans, causing an estimated 30 percent of heart disease deaths and an estimated 35 percent of cancer deaths.

And while the experts know that a change in diet can prevent Americans from getting cancer, I doubt very much that the average American is fully aware of this fact. This hearing will begin the process of educating Americans about the relationship between diet and cancer prevention, but we have to do a lot more than just issue and disseminate the existing dietary recommendations. We need a national diet and cancer prevention strategy. This strategy must coordinate the public and private sectors with the medical community to implement a comprehensive education and intervention policy throughout all

levels of our society. We must consider how to implement dietary recommendations on all levels of the government. Should we require our health care delivery system to also deliver this important message on nutrition? And if so, who responsibility is it to reach everyone? At the very least we should mandate education on dietary recommendations from K-12, in health care facilities and in medical schools. I hope this hearing will give us a better understanding of how we can accomplish the aggressive task of improving America's diet and reducing the cancer risk for our nation.

Most Americans are afraid and confused about cancer. Few, if any, are aware of ways to reduce their risk of getting this disease. From tobacco, to diet, to environmental and occupational exposures to carcinogens, there is ample information that we can deliver to the public through outreach intervention and education programs. I am working on a legislative initiative that will enhance disease prevention efforts by involving ordinary citizens in the dissemination of information to their community. It is our responsibility to work with the public to deliver these prevention programs and to take the lead in making our food, water and work place safe.

In closing, I think Congress and our public health service must dedicate more resources to preventing cancer. And, let me be clear what I mean by cancer prevention -- cancer prevention, in my mind, and in the mind of most Americans, means preventing someone from ever getting cancer in the first place. The closest definition that the public health service and NCI have to my definition of prevention is called "primary prevention." NCI's Director, Dr. Samuel Broder has testified that for each of the past 8 years, funding for primary prevention has remained at approximately 16 percent of NCI's total budget. Some researchers have said that the figure for primary prevention is even lower than that. I understand the importance of research on diagnosis and treatment, but primary prevention must begin to receive at least equal levels of funding as diagnosis and treatment receive.

Mr. TOWNS. Before we begin, I would like to thank all the witnesses for taking the time out of your busy schedules to be with us today. Our hearing will proceed as follows. We will ask each of you to testify and then we will have questions at the end of the panel. In the interest of time, we ask that you summarize your testimony to approximately 5 minutes. Your entire statement will be submitted for the record, without objection.

What I would like to do is begin by introducing the first panel: Ellen Haas, the Assistant Secretary for Food and Consumer Services at the USDA. Glad to have you with us.

Ms. HAAS. It is a pleasure.

Mr. TOWNS. Dr. Michael McGinnis, Deputy Assistant Secretary for Health, Department of Health and Human Services, and Dr. Peter Greenwald, Director, Division of Cancer Prevention and Control, the National Cancer Institute.

Assistant Secretary Haas.

STATEMENT OF ELLEN HAAS, ASSISTANT SECRETARY FOR FOOD AND CONSUMER SERVICES, U.S. DEPARTMENT OF AGRICULTURE

Ms. HAAS. Thank you very much, Chairman Towns and Congressman Sanders. It is a pleasure on this historic day to be here and to work with you to reduce the incidence of cancer in our country and to talk about the role the Department of Agriculture can play in improving the health of Americans.

Secretary Espy and I want to commend you for this important hearing and to acknowledge the fact that nutrition is a central mission of the Department of Agriculture.

Last week, as President Clinton announced reinventing government, Secretary Espy announced as well "reinventing USDA." He talked about the importance of the Department's mission to feed those in need and to encourage healthy diets for all Americans. Because of his commitment to providing healthful food to all American consumers, the Secretary has elevated the place of nutrition at the Department of Agriculture.

Under Secretary Espy's reorganization plan, the Assistant Secretary for Food and Consumer Services would become the Undersecretary for Food, Nutrition, and Consumer Services, one of only three Undersecretaries in the Department. This change recognizes the important mission that nutrition has.

The Undersecretary's jurisdiction would include both the Food and Consumer Services' 14 food assistance programs as well as a newly formed Nutrition Research and Education Service which would provide a focal point in the Department for implementing the Secretary's goal and my goal of integrating nutrition research and education into our extensive network of food assistance programs.

These actions underscore Secretary Espy's commitment to making nutrition a primary mission of our Department.

Along with that primary mission come our responsibilities in the area of dietary guidelines. This hearing, "America's Diet: Are We Losing the War Against Cancer?" poses a vitally important public health question. There is clear consensus that diet is related to chronic disease. We use the important reports that I go into in my

testimony, the Surgeon General's report, the diet and health report, and the National Academy of Science reports, which become the basis of our policies and our programs.

The Department sees the issue of disease prevention from a broad perspective. Findings of the National Cancer Institute have been an important point in the formulation of current nutrition standards embodied in the dietary guidelines for Americans and the food guide pyramid, which visually translates the guidelines.

Both the dietary guidelines and the pyramid incorporate NCI's recommendations as well as recommendations of other public health organizations. While we at USDA are certainly very concerned about cancer risk, we also have the responsibility of formulating our policies for other health problems that we know can be controlled, such as heart disease, high blood pressure, and obesity.

NCI and other science-based research have been critical to us in the Department in formulating our dietary recommendations. For example, the guideline suggestion that no more than 30 percent of calories from fat is based on NCI and other research. The food guide pyramid's recommendation that Americans eat two to three servings each of fruits and vegetables a day is similar to NCI's 5-A-Day program with its five-fruits-and-vegetables-each-day message. USDA and NCI have worked together on other projects besides the dietary guidelines. These include the Interagency Board for Nutrition Monitoring and Related Research, which NCI sits on. There are other coordinated activities such as the joint data base on carotenoid values developed by USDA's Agriculture Research Service. Also, NCI has helped the Department integrate its findings into the nutrition education components of the food assistance programs by making available quantities of appropriate consumer publications. We have been delighted to use the "Diet, Nutrition and Cancer Prevention: The Good News Report," and have distributed it widely.

We have done a lot together, but we must do even more.

In particular, of great concern is the dietary status of children and teens. USDA and other studies clearly show that we can do much more to provide nutritious meals to children. Studies indicate their diets do not now meet the dietary guidelines. School-age children get too many of their calories from fat. USDA and NCI have joined other public health organizations in recommending their children get only 30 percent of their calories from fat. However, studies show that the number is much higher. To deal with that and to address the problem, the Department of Agriculture got off to a fresh start by last week announcing our efforts to hold hearings across the country and solicit public comment on how we can meet nutrition objectives in our school lunch programs. We will be holding four hearings to formulate policy, to hear from citizens, to hear from parents on how we can better meet these nutrition objectives within the school lunch programs. We will first be going to Atlanta, GA, on October 12; Los Angeles on October 27; Flint, MI, November 27; and Washington, DC on December 7.

Finally, let me say we are developing nutrition education strategies so that we can be where people are. That means we can use the electronic resources we have available to us—MTV, television—to promote messages that will reduce the incidence of cancer, pro-

mote public health, and really educate the public on how to meet the dietary guidelines.

I see the red light is on. My written testimony goes into this in much more detail. But I look forward to working with you and the committee in making this war come to a peaceful end.

Thank you.

Mr. TOWNS. Thank you.

[The prepared statement of Ms. Haas follows:]

TESTIMONY OF ELLEN HAAS
ASSISTANT SECRETARY, FOOD AND CONSUMER SERVICES
U.S. DEPARTMENT OF AGRICULTURE
BEFORE THE
HOUSE SUBCOMMITTEE ON HUMAN RESOURCES
AND INTERGOVERNMENTAL RELATIONS
HOUSE COMMITTEE ON GOVERNMENT OPERATIONS
SEPTEMBER 13, 1993

Good morning Mr. Chairman and members of the subcommittee. I am pleased to be here today to talk about the role the United States Department of Agriculture (USDA) can play in improving the health of the American people. Secretary Espy and I want to commend you, Mr. Chairman, for holding this important hearing. With the clear link between diet and health, enabling Americans to adopt eating habits that follow accepted dietary guidelines is essential.

Last week, as President Clinton announced his plan to reinvent government, Secretary Espy announced his plan to reinvent USDA. He talked about the importance of the Department's mission to feed those in need, and to feed them healthy meals. Because of his commitment to providing healthful food to all Americans, the Secretary has elevated the place of nutrition at USDA. Under his reorganization plan, The Assistant Secretary for Food and Consumer Services would become the Undersecretary for Food, Nutrition and Consumer Services. All of the domestic food

assistance programs and the consumer advisor activities would continue to be the responsibility of the new Undersecretary as part of the Food and Consumer Service. The newly created Nutrition Research and Education Service will provide a focal point in the Department for implementing the Secretary's goal -- and my goal -- of integrating nutrition research and education into our extensive network of domestic food assistance programs.

These actions underscore Secretary Espy's commitment to making nutrition a primary mission of our Department.

Link Between Diet and Health

The topic of today's hearing, "America's Diet: Are We Losing the War Against Cancer?" poses a vitally important public health question. There is clear consensus that diet is related to chronic disease. The 1988 Surgeon General's Report on Nutrition and Health found that for the two out of three Americans who neither smoke nor drink, eating patterns may shape their long-term health prospects more than any other personal choice. With the cost of health care spiraling, these are choices no American can ignore.

The 1989 Diet and Health report published by the Food and Nutrition Board of the National Research Council found that diet is a factor in several major chronic diseases -- including

cardiovascular disease, hypertension and certain cancers. Healthy People 2000, the Department of Health and Human Services' national health objectives, relied on this research in identifying the 21 National Health Objectives for Nutrition.

USDA sees the issue of disease prevention from a broad perspective. Findings of The National Cancer Institute (NCI) have been important in the formulation of current nutrition standards embodied in the Dietary Guidelines for Americans and the Food Guide Pyramid which visually translates the guidelines.

Both the Dietary Guidelines and the pyramid incorporate NCI recommendations as well as recommendations of other public health organizations. While we at USDA are certainly concerned about cancer risks, we are as concerned about other health problems we know can be controlled to some degree through diet--heart disease, high blood pressure and obesity, for example.

NCI and other science-based research have been important in all of the USDA dietary recommendations. For example, the guideline suggesting that no more than 30 percent of calories come from fat is based on NCI and other research. The Food Guide Pyramid's recommendation that Americans eat 2-3 servings each of fruits and vegetables a day is similar to NCI's Five-a-Day Program with its eat five-fruits-and-vegetables-each-day message.

USDA and NCI have worked together on other projects besides the Dietary Guidelines and the Food Guide Pyramid. Let me list some other examples:

•The Interagency Board for Nutrition Monitoring and Related Research (IBNMRR) is one of our coordinated efforts. The Interagency Board, which I co-chair along with Dr. Philip Lee, Assistant Secretary for Health, Department of Health and Human Services (DHHS), was established by the National Nutrition Monitoring and Related Research Act of 1990 to promote coordination with regard to nutrition monitoring research. The Interagency Board is composed of 22 Federal agencies, including The National Institutes of Health (NIH), that conduct nutrition monitoring and surveillance activities, or are major users of monitoring data. The Board meets quarterly to improve planning, coordination and communication among member agencies. NCI is also a member agency of the Interagency Board.

•Another coordinated activity is the joint database on carotenoid values developed by USDA's Agricultural Research Service (ARS) and NCI. ARS plans to continue to generate data on carotenoids in foods. The objective of the database was to provide a tool for studies of the relationship between cancer prevention and dietary intake of carotenoids.

•NCI has helped USDA integrate its findings into the nutrition education components of the food assistance programs. This has been done by making available quantities of appropriate consumer publications, such as Diet, Nutrition & Cancer Prevention: The Good News, for distribution to participants in the food assistance programs. The publication has been made available to all of our food domestic assistance programs upon request, including the Nutrition Programs for the Elderly, the Nutrition Education and Training Program, the Food Distribution Program on Indian Reservations, the Child Nutrition Programs and others.

•USDA and NCI also have several ongoing projects related to nutrition and cancer prevention. A Human Nutrition Information Service (HNIS) researcher served on the committee to develop the questionnaire for the Five-A-Day for Better Health Baseline Study -- a survey of Americans' fruit and vegetable consumption and factors that affect consumption. Similarly, NCI staff has served on various working groups to develop HNIS surveys.

We have done a lot but we must do even more.

Dietary Status of Children and Teens

USDA and other studies clearly show that we can do much more to provide nutritious meals to children and teens.

Studies indicate that children's diets do not now meet the Dietary Guidelines.

·School-age children get too many of their calories from fat. USDA and NCI have joined other public health organizations in recommending that children get only 30 percent of their calories from fat. Studies show the number is much higher.

·Large numbers of our children are not eating fruit. Our most recent survey data on what Americans eat indicate that 35 percent of elementary school children and almost 60 percent of teenagers ate no fruit on the day of the survey. The Food Guide Pyramid includes 2-3 servings a day from the fruit group.

·Children do better with vegetables--three-fourths or more of school age children ate at least one vegetable on the survey day. But this suggests that about 25 percent of school age children sometimes eat no vegetables. A large proportion of the vegetables elementary school children and teenagers eat are potatoes, most of them fried.

Clearly, we have a lot more work ahead of us. Consumption of fruits and vegetables by children and teens falls far below the recommendations of NCI's Five-A-Day Program as well as USDA guidelines.

School Lunch Program Initiative

We are actively working on ways to add a nutrition component to all our domestic food assistance programs and to get school meal programs to meet the Dietary Guidelines for Americans so that children get nutritious, healthy meals. Before any school meal policy changes can be made, we want to hear from the public. So Secretary Espy has announced a series of regional hearings to begin this fall to focus on Nutrition Objectives for School Meals. We will hold four hearings and are encouraging those who can't attend the hearings to send written comments.

The hearings will consider individual comments and concerns about issues related to the latest nutrition research on the relationship of diet to health, the eating habits of American youth, and how these findings can be applied to the National School Lunch and Breakfast Programs.

The hearings will be held in Atlanta, Georgia, October 13; Los Angeles, California, October 27; Flint, Michigan, November 12; and Washington, DC, December 7. Public comment on this issue will be vital in reshaping our school meal programs.

Nutrition Education Strategy

It is not enough for us to help produce food, or even distribute it better. We must go beyond and establish nutrition education programs that promote healthful eating habits and empower consumers with enough information to make healthful choices for themselves and their families.

Part of our education strategy needs to be better communication. We live in a technologically sophisticated world yet we continue to disseminate information mostly through printed brochures and pamphlets. The Department has extensive electronic resources which we need to harness for more persuasive and far-reaching communications.

We need to compete with the billions spent to produce the light and sound shows that are today's TV food ads. Americans watch television so that's where we have to be. We need to fight fire with fire and stretch our reach by using new communications technology. If the teenagers who are watching MTV are the ones we need to reach -- and our research tells us they are -- then our messages should be on MTV.

The new food label which will be required by law on most food products by next May, promises to be another useful tool in nutrition education efforts. USDA worked closely with the Food

and Drug Administration (FDA) to develop a new nutrition label that would provide consumers with knowledge on exactly what they're eating. But the new nutrition label is only beneficial if consumers understand what they're reading and how they can use labels to put into practice the recommendations of the NCI and the other organizations dedicated to preventing specific diseases. HNIS' new food survey will tell us how well consumers use and understand food labels and, even more importantly, how that affects what they eat. With that information we can more effectively target our education efforts. We can't just glue the new label to packages and walk away. We have to explain what it means and how to use it. With proper education, the new label will empower consumers to make healthful choices. As part of the effort to make nutrition labels more useful to consumer, USDA and FDS initiated a public education campaign. The goal of the campaign is to provide consumers assistance in making accurate, sound dietary choices in accordance with the Dietary Guidelines for Americans. Recognizing that a cooperative effort was the most effective way to accomplish this goal, the National Exchange for Food Labeling Education (NEFLE) is a cooperative effort between the Federal government, State governments, consumer groups, industry, and educational groups that allows these organizations to pool their resources to carry out the public education campaign. NEFLE will focus its efforts on special populations, such as children, elderly, and individuals with dietary restrictions, to ensure that their educational needs are

met. NEFLE has held three meetings to develop education initiatives and campaign strategy. On April 1, 1993, a nationwide video-teleconference was held between USDA, FDA, and hundreds of others involved in nutrition education. This level of cooperation and input will be necessary to integrate nutritional education into routine educational activities of public and private sector organizations, and to help consumers use the nutrition labels to make food choices that lead to healthy eating habits.

All of the nutrition research and nutrition education efforts we undertake depend on working partnerships within USDA, with other Federal agencies such as NCI, State and local governments, and with the private sector. I am a firm believer in the importance of making linkages and building coalitions to achieve shared policy goals. All who are part of the food system -- consumers, farmers, industry, and government -- have a stake in this agenda.

There has been cooperation and collaboration among various public and private groups. But we must do much more. We not only need to work together, we need to coordinate more effectively the work we do. I look forward to a close collaboration with Dr. Lee and his colleagues at DHHS as we all work toward the future health of our nation.

In closing, let me restate the Administration's commitment to coordinating policies among the Federal agencies. As you know, the Administration is committed to "reinventing" the way we do business, and policies and procedures on nutrition are no exception. I am personally honored to have been chosen by the President and Secretary Espy to serve in the Department of Agriculture and will do all in my power to make sure that we work together to solve some of the more vexing problems, such as reducing the incidence of cancer, that face us all.

Mr. TOWNS. Dr. McGinnis.

STATEMENT OF J. MICHAEL MCGINNIS, DEPUTY ASSISTANT SECRETARY FOR HEALTH, DISEASE PREVENTION AND HEALTH PROMOTION, DEPARTMENT OF HEALTH AND HUMAN SERVICES

Dr. MCGINNIS. Thank you very much, Mr. Chairman.

I would like to begin by applauding the subcommittee for spotlighting its interest on this important issue and to tell you that it is a great privilege for me to join two of the most prominent leaders in this area, Ellen Haas and Peter Greenwald, who have spent years providing guidance for all of us in these important issues.

My testimony can be summarized, I think, in three points.

First, diet and nutrition represent a high priority in our strategy to improve the health of Americans overall.

Second, several HHS agencies are involved in this effort, with NCI providing the leadership for issues related to diet and cancer.

And third, despite our extensive and direct program involvement in these issues, in many ways our most important efforts are those to catalyze and stimulate supportive efforts from the non-Federal sector.

Let me deal with each of these briefly in turn. On the first point—the high priority of nutrition in our public strategies—let me point to several items. The first is the one you referred to earlier, the Surgeon General's Report on Nutrition and Health of 1988. The Surgeon General's reports are reserved for issues only of the highest priority, for example the Surgeon General's Report of 1964 on Tobacco and Health, which led the way to our fight against that scourge. This Surgeon General report follows that model, because the influence of dietary factors on the health of Americans is really comparable to that of tobacco. Indeed, as the Surgeon General's report says, and I will quote directly, "For the two out of three adult Americans who do not smoke and do not drink excessively, one personal choice seems to influence our long-term health prospects more than any other: What we eat."

Total intake of fats will be the subject of a followup Surgeon General's report to be published next year. In addition, we have worked diligently and closely with our USDA colleagues to develop and jointly issue the dietary guidelines and more recently its graphic description, the food pyramid, to bring these findings into useful form.

Finally, I will mention the fact that we have codified our policies in measurable statistics in Healthy People 2000, which seeks to reverse the increase in cancer deaths by the year 2000, to decrease the incidence of cancer deaths from two of the most prominent dietary cancers, breast and colorectal cancer, and reduce saturated fat intake to less than 7 percent, in addition to increasing carbohydrate and fiber consumption.

On the involvement of various agencies, I won't go into detail, it is listed in my testimony, but virtually all our health-related agencies have important issues that touch upon this initiative, the National Institutes of Health with several institutes, NCI, as well as NHLBI and NIDDK, although those other institutes are not focused on cancer. The important thing about dietary influences on

cancer occurrence is that from the perspective of several different diseases, similar dietary patterns are prompted. The Centers for Disease Control and Prevention through its data collection efforts, is also an important player. One of our most important efforts in this regard is the FDA's work to revise the food label thereby making dietary choices easier and more practical in the direction that we would like to see them move.

In addition, our service delivery programs, the Indian Health Service and the Health Resources and Services Administration, make important contributions, as does the Administration on Children and Families, through the Head Start program, and the Administration on Aging.

Ellen Haas has already noted we have extensive coordinated efforts, both within the Department with our Nutrition Policy Board, and between departments involving USDA, the Department of Education, Department of Defense, and several departments important to making progress in these areas.

My third point is on the importance of influencing and catalyzing supportive efforts throughout the non-Federal sector. Clearly, in trying to foster behavior important to health, the last thing we want to do is federalize this effort. We want to ensure we have allies who are at the point of those decisions working to reinforce those decisions; the community based organizations, grocery stores, health providers, a variety of participants in this effort. Therefore a great deal of our focus has been on working with States and developing strategic plans for their involvement and the involvement of their communities with groups like the American Dietetic Association, the American School Food Service Association, the Council of Chief State School Officers, the National Association of State Boards of Education to get better programs and education in schools, the American Cancer Society, the American Heart Association, and with industry to ensure that there are consistent messages from a variety of perspectives that can help us make better and more nutritious decisions throughout the Nation.

We clearly need to do better, but we want to thank you for the spotlight that you are giving on the importance of this issue.

Mr. TOWNS. Thank you.

[The prepared statement of Dr. McGinnis follows:]



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Office of the Assistant Secretary
for Health
Washington DC 20201

STATEMENT

BY

J. MICHAEL MCGINNIS, M.D.

DEPUTY ASSISTANT SECRETARY FOR HEALTH

(DISEASE PREVENTION AND HEALTH PROMOTION)

PUBLIC HEALTH SERVICE

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

BEFORE THE

SUBCOMMITTEE ON HUMAN RESOURCES AND
INTERGOVERNMENTAL RELATIONS

COMMITTEE ON GOVERNMENT OPERATIONS

U.S. HOUSE OF REPRESENTATIVES

September 13, 1993

Mr. Chairman, I am Dr. J. Michael McGinnis, Deputy Assistant Secretary for Health for Disease Prevention and Health Promotion with the Public Health Service (PHS) of the U.S. Department of Health and Human Services (HHS), and Chairman of the Department's Nutrition Policy Board (NPB). I appreciate this opportunity to discuss with you policy development and coordination as it relates to diet and cancer prevention. My remarks will address three topics: (1) the evolution of our understanding of the importance of diet to cancer prevention; (2) implementation activities in diet and chronic disease prevention; and (3) mechanisms for coordination. My remarks reflect the interrelated nature of diet and chronic disease relationships and recommendations. Dr. Greenwald will address diet and cancer prevention more specifically. Let me state at the outset that I believe that all our diet and disease prevention activities contribute to "the war on cancer." We have looked and continue to look to the National Cancer Institute as the lead agency for diet and cancer prevention in the Department.

Diet and Chronic Disease Prevention

This century has brought about a major shift in diet-related public health problems--a shift from nutrient deficiency diseases as problems (and calories and fats as partial solutions) to chronic degenerative diseases as problems (and calories and fats as major sources of the problems). By the mid-1970s, evidence was becoming increasingly compelling that the leading chronic disease causes of death in the United States were linked, at least in part, to consumption of diets too high in fat, calories, (and for some people) salt and alcohol. Five of the leading causes of death in the United States--coronary heart disease, certain cancers, strokes, diabetes mellitus, and atherosclerosis--are diseases in which diet plays a part. Together these conditions account for nearly two-thirds of the two million annual deaths in this country. If you count alcohol as a dietary factor, the figure increases to eight of the ten leading causes of death. This is because unintentional injuries (especially those involving motor vehicles), suicides, and chronic liver disease and cirrhosis--are causes of death in which alcohol plays a part.

The societal impact of the problems in which diet plays a part is substantial. Let me illustrate with a few numbers:

- More than 500,000 Americans died of cancer in 1990. Among blacks, the cancer death rate was 35% higher than for the general population. Over one million new cases will be diagnosed in 1993. Although the precise contribution of diet to these figures is uncertain, some experts have suggested that dietary factors overall are responsible for perhaps a third or more of all cases of cancer.
- More than 1.25 million heart attacks occur each year in the U.S., and more than one-half million people die as a result. Multiple risk factors are involved, but diet, especially excess consumption of saturated fat and

cholesterol, is clearly a major risk factor. Coronary heart disease death rates are higher among blacks than among the rest of the population.

- Twenty percent of adult Americans have blood cholesterol levels that are too high.
- Nearly 60 million Americans also have high blood pressure.
- Approximately 2 million Americans suffer from stroke-related disabilities.
- Between 11 and 12 million Americans have diabetes.
- Over 34 million adults are overweight--that's about one quarter of the population.
- The costs of cancer for 1990 were estimated at \$104 billion as well as 1.9 million years of potential life lost. The costs of heart disease in 1990 have been estimated at over \$40 billion in direct and indirect costs and 1.4 million years of potential life.

Although the precise nature and magnitude of diet's contribution to the development of these conditions is uncertain, the magnitude of these problems is so great that even a small decrease in risk as a result of dietary change should be expected to produce substantial improvements in the overall health of Americans.

The emphasis on diet's relationship to chronic diseases was first reflected at the national level in the 1977 report, *Dietary Goals for the United States*, produced by the Senate Select Committee on Nutrition and Human Needs. It was supported in 1979 by this Department's *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention*, which recommended reduced intake of sugar, fat, salt, cholesterol, and alcohol, and maintenance of ideal body weight. These recommendations were expanded by the 1980 publication, *Nutrition and Your Health: Dietary Guidelines for Americans*, (revised 1985 and 1990) and by the Food Guide Pyramid graphic, both jointly issued by the HHS and USDA. The *Dietary Guidelines* include the following principles that form the basis for Federal dietary guidance policy:

- Eat a variety of foods.
- Maintain healthy weight.
- Choose a diet low in fat, saturated fat, and cholesterol.
- Choose a diet with plenty of vegetables, fruits, and grain products.
- Use sugars only in moderation.
- Use salt and sodium only in moderation.
- If you drink alcoholic beverages, do so in moderation.

These common principles were emphasized and enhanced in *The Surgeon General's Report on Nutrition and Health*, issued in July 1988, and in the National Research Council's (NRC) report *Diet and Health: Implications for Chronic Disease Risk*, issued in 1989.

I would like to expand a bit on the *Surgeon General's Report*. The report, like all Surgeon General's reports, was directed toward policy makers, although its ultimate beneficiaries are the American public. This comprehensive four-year review of the research information bearing on diet-disease relationships was prepared under the general editorial guidance of the HHS Nutrition Policy Board. There were over 50 contributing authors, about 200 reviewers both within the Federal government and outside, and about 2,500 articles and papers reviewed. NCI played a leadership role, not only in the chapter related to cancer, but also in evaluating the implications of the scientific evidence for overall policy. The report represents the Public Health Service's (PHS) consensus on the implications of current knowledge for dietary guidance and education, nutrition programs and services, and nutrition research and surveillance. This report, along with the NRC report, has provided ample documentation for the importance of nutrition to health and has established a foundation for nutrition policy.

The principal conclusions of the Report relate to its findings in three dimensions:

- The strength of the contribution of diet to health prospects:
 "For the two out of three adult Americans who do not smoke and do not drink excessively, one personal choice seems to influence long-term health prospects more than any other: what we eat."
- The convergence of dietary recommendations from the perspective of several chronic diseases:
 "The evidence presented in this report suggests that similar dietary patterns affect the risk for several chronic diseases."
- The role of dietary fat as the primary factor for societal concern:
 "Clearly emerging as the primary priority for dietary change is the recommendation to reduce total intake of fats, especially saturated fats, because of their relationship to development of several important chronic disease conditions."

In the report, there are nine specific dietary recommendations: five are for most people and four are for some people. For most people, the recommendations relate to reducing intake of fat and cholesterol, controlling energy intake and weight, increasing intake of complex carbohydrates and fiber, reducing intake of sodium, and controlling alcohol intake. For some people, the recommendations deal with access to fluoridated

water, control of sugar intake, and increasing calcium and iron. In addition to findings directly related to America's dietary patterns, the report contained policy recommendations in a range of categories: public education; nutrition labeling; professional education; removal of barriers; health care programs; food products; food services; food assistance programs; surveillance; and research. I will not elaborate on each of them here, but would be happy to submit for the record the Summary and Recommendations portion of the report, in which they are described. I would also point out that they provide the scientific basis for our current initiatives to reduce chronic disease risk.

Although the recommendations of the *Surgeon General's Report* are not based on new ideas, there are some striking differences with previous reports. First is the comprehensive nature of the scientific evidence subject to review across all disease categories, which had not previously been undertaken in this scope. Second is the clear statement on the relative strength of the role of diet among various potential controllable risks to health, and third is the establishment of dietary fat as the major issue among the various potential dietary issues. These issues are being examined in a follow-up to the *Surgeon General's Report* that focuses on the relationship of fat intake to health.

Implementation

There no longer can be any doubt about the importance of diet to the health of Americans. The *Surgeon General's Report* and the NRC report make that point clearly. They also give the PHS, as well as other public and private health personnel in this Nation, a sound platform from which we can address improvements in a wide variety of programs--from research to education to services. We are acting on these recommendations by developing information on diet-disease relationships and promoting a more healthful diet in several key ways, as the following examples show:

- Basic research on diet and disease. In Fiscal Year 1990 total expenditures for human nutrition research and training, including research on public information and education, by the PHS amounted to nearly \$318 million of which \$292 million was from the National Institutes of Health (NIH). This is up from \$173 million in 1983.
- Nutrition components of food labeling. Federal initiatives, supported by the passage in 1990 of the Nutrition Labeling and Education Act, have substantially transformed the food label and strengthened its ability to inform consumers' choices. Although the new nutrition labeling does not occur until May 1994, some products conforming to the new format are already

beginning to be seen on supermarkets shelves. In addition, FDA in conjunction with USDA, other PHS agencies, and public and private sector groups has undertaken a consumer education program to inform consumers about the changes and the importance of label information in maintain healthy dietary practices. NCI is an active player in both the educational efforts and in formulation of regulations that are consistent with the current science of diet and its relationship to health.

- Surveys of dietary intake and of disease prevalence. In 1988, the Center for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS) fielded the Third National Health and Nutrition Examination Survey. This survey requires six years to implement and will continue to expand our data base on the health and nutritional status of Americans and enable further elucidation of the relationships among dietary patterns and disease rates, including cancer. Early data on serum cholesterol from the first phase (1988-1991) were recently published, and show further declines in the prevalence of high serum cholesterol among the United States population. In addition to national surveys, the CDC helps States conduct surveys of health behaviors that include information on the consumption of fruits and vegetables.

The National Nutrition Monitoring and Related Research Act of 1990 has given additional impetus to improvements and greater consistency in surveillance and data collection systems of the Federal government. I am pleased to note that collaboration between USDA and HHS in implementing this Act has been exemplary, using joint secretariats and the forum of an Interagency Board to cement a cooperative approach to nutrition monitoring issues. NCI is an active participant on the Interagency Board, by its NIH representative, and by the membership of NCI scientists on the Board's working groups.

- Initiatives of specific institutes of the National Institutes of Health (NCI, NHLBI, NIDDK, NIA) to reduce diet-related risk factors in the population. You will hear from Dr. Greenwald about the NCI's sponsorship, with the Produce for Better Health Foundation (PBHF), of the National 5-A-Day Program. The program is designed to encourage Americans to eat five or more servings of fruits and vegetables every day. It is the largest public/private enterprise ever undertaken by the NCI and a model of public/private collaboration within the Department. Over the next five years, the National 5-A-Day Program will encourage all Americans to eat five servings or more of fruits and vegetables a day as part of a low-fat, high-fiber diets; award four-year research grants to evaluate the effect of 5-A-Day activities in schools, workplaces, and other community settings; and work

with PBHF--representing more than 200 food retailer organizations and more than 30,000 supermarkets to promote the program's message in the marketplace. State and local health departments will also play an active role in the 5-A-Day program. NCI is now licensing these agencies, and CDC will provide coordination and technical assistance as the interventions are planned, implemented, and evaluated. The collaboration between CDC and NCI in this effort is a good example of interagency collaboration.

In addition, the National Cholesterol Education Program of the National Heart, Lung, and Blood Institute (NHLBI) is an important example, targeting both health care providers and consumers to increase awareness about the significance of lowering blood cholesterol levels as a means of preventing cardiovascular disease. Recent public education efforts of the program have focused on children and adolescents. Finally, a number of PHS agencies collaborated with the Kaiser Family Foundation to launch a public education program entitled "Project LEAN," focusing on reduction in consumption of dietary fat; this project is now an ongoing service of the American Dietetic Association.

- Development of health objectives for the Nation through 1990 and the year 2000. *Healthy People 2000* outlines major health outcome, risk reduction, and service and protection objectives to be achieved by the year 2000 in the area of nutrition, with a focus on reducing dietary fat, increasing consumption of fruits and vegetables, reducing overweight, and enhancing food services in keeping with the latest scientific understanding of the relationships of diet and health. These objectives, developed with the full participation of NCI, provide the framework for the PHS' diet and disease prevention efforts.
- Development of linkages to encourage the private sector to participate in efforts to educate the public about healthful food choices. CDC's National Center for Chronic Disease Prevention and Health Promotion is coordinating PHS's contribution to a major initiative to join the forces of government (Federal, State, and local) and industry address this concern. The purpose of this initiative, in which NCI and the Produce for Better Health Foundation are participants, is to strengthen the approach to nutrition intervention to achieve the Year 2000 objectives for lowering fat intake and increasing the intake of fruits, vegetables, and grains. This is especially important in view of the facts that although trends in dietary intake in the United States over the past decade have been generally favorable for the prevention of heart disease and cancer, the rates of decline in fat intake do not appear to be sufficient to allow us to achieve the Year 2000 target of under 30 percent of calories from fat.

Likewise, though the intake of fruits and vegetables is on the rise, rates of change will have to accelerate to reach the target of five servings a day.

Coordination

The HHS Nutrition Policy Board (NPB) is the mechanism within HHS for coordinating nutrition policy development and program implementation. It was, for example, responsible for preparation of *The Surgeon General's Report on Nutrition and Health*, and, with USDA of the *Dietary Guidelines for Americans* and Food Guide Pyramid graphic. Membership of the Board, which I chair, comprises policy-level representatives from all PHS agencies and other HHS agencies with nutrition-related activities. There is also a working group of technical nutrition staff and special topic committees, currently a standing Committee on Dietary Guidance and the *ad hoc* Working Group on Healthy Weight.

The Committee on Dietary Guidance is responsible for coordinating dietary guidance activities within HHS and between HHS and USDA, including the joint HHS-USDA review of dietary guidance materials required by the Nutrition Monitoring and Related Research Act of 1990. NCI is represented on these committees by an NIH representative--the Director of the Division of Nutrition Research Coordination and Chair of the Nutrition Coordinating Committee in the Office of the Director/Office of Disease Prevention. In addition because of its key role in dietary guidance, an NCI liaison serves on the Committee on Dietary Guidance. All NCI dietary guidance materials intended for the healthy general population are reviewed prior to publication by the Committee on Dietary Guidance for consistency with the *Dietary Guidelines for Americans*. A USDA liaison also serves on this Committee.

In addition to the NPB Committee on Dietary Guidance, two interagency committees--the Interagency Committee on Human Nutrition Research and the Interagency Board for Nutrition Monitoring and Related Research--work to ensure coordination of nutrition across the Federal government. These two Committee are chaired by the Assistant Secretary for Health and a corresponding assistant secretary in the USDA. NCI is represented on these committees by an NIH representative. In the nutrition monitoring area, NCI scientists participate on special topic working groups.

In summary, the *Surgeon General's Report* and the National Research Council's report have provided the scientific underpinning for exciting progress in the nutrition policy arena and the nutrition and related objectives provide a framework for implementation. While we recognize we are still working at the margin of what is possible, prevention is gaining momentum. We in HHS continue to look to the

National Cancer Institute for leadership in diet and cancer prevention. At the same time, we continue to believe that because of the interrelated nature of diet and chronic disease recommendations, we are all contributing to help "win the war on cancer."

Mr. Chairman, I appreciate your interest and that of your committee in this area and would be happy to respond to your questions.

Mr. TOWNS. Dr. Greenwald.

**STATEMENT OF PETER GREENWALD, DIRECTOR, DIVISION OF
CANCER PREVENTION AND CONTROL, NATIONAL CANCER
INSTITUTE**

Dr. GREENWALD. Thank you. I am delighted to be here to represent the National Cancer Institute. We place a great importance on diet and cancer. While much remains to be learned, there are a number of principles that are well established, and progress has been made in reaching the American public with important dietary information related to the risk of cancer, which I agree with you, we have to build on.

We have a long research history in the area of diet and cancer. Wide international differences and studies of migration have provided strong leads. For example, we have looked at the lifestyle of the Japanese population as it has moved to Hawaii and California, and we find that the cancer rates change as people move. Those people and their children take on the risk of the place to which they move.

A simple explanation is with the traditional Japanese diet which is low in fat. Their immigrant descendants adopted the higher fat diet of America and had their breast and colon cancer rates increase—prostate cancer probably also increased—although there are other dietary changes that also took place.

In 1980, the National Cancer Institute commissioned the National Research Council to conduct a review of all of the data on diet and cancer. One conclusion was that it may not be possible to propose a diet that would protect everyone against all forms of cancer, but on the other hand, it is possible to formulate guidelines that will give us a substantial reduction in cancer risks.

The National Research Council suggested these guidelines: Cut the intake of saturated and unsaturated fatty acids; cut fat from 40 percent to 30 percent of calories as a practical target, but they noted that the data could be used to justify an even greater reduction; increase the consumption of fruits, vegetables and whole-grain cereals, and practice moderation in the use of alcohol.

We have already referred to the Surgeon General's report in 1988, and the National Research Council's followup report in 1989, which provided more extensive data on the growing research evidence linking diet to cancer risk.

There are many steps in the cancer development process. There are predispositions that may be genetic. There are factors about tumor promotion. But we know that nutrition plays an important role in maintaining a healthy body. And beyond that, certain nutritional elements are important for stability of the cell. For selected cancer sites such as the colon, cooking methods may influence the likelihood of getting cancer.

There are some naturally occurring chemicals in foods as well as a possible effect of pesticides. This is being studied by NCI in collaboration with the National Institute of Environmental Health Sciences and other groups.

Other micronutrients, including vitamins, may protect the cell in some way and interrupt the tumor development process. And these studies are under way. There has been substantial evidence that

fat may be a risk factor for postmenopausal breast cancer, and the question has been raised about alcohol in relation to breast and certain other cancers.

Today, we have the benefit of many of these studies, and we can move forward with a broad research agenda. We have both prevention and chemoprevention human clinical trials under way, broad public information campaigns and studies in the basic mechanisms of nutrition and cancer.

One example of these studies is a study done in a rural, rather malnourished population in China. The results from the study will be reported tomorrow. And they relate to dietary supplements pertaining to cancer of the upper stomach and esophagus.

Because of these questions and the disproportional burden of cancer on the minority population, NCI is sponsoring a multi-institutional, randomized clinical trial in minority and underserved women to find out the feasibility of achieving a low-fat diet and to see whether this can be tested in reducing postmenopausal breast cancer incidence. NCI is taking part also in the NIH women's health initiative. Where special populations such as African Americans or Native Americans suffer disproportionately high rates, we have developed special education programs. The National Black Leadership Initiative on Cancer was established to draw on the expertise in the community, together with our own scientists, to carry the important dietary and other risk-reduction messages.

A private/public partnership called 5-A-Day for Better Health encourages the public to eat at least five servings of fruits and vegetables a day. In fact, 5-A-Day Week is being celebrated this week. The 5-A-Day goal is that Americans will double their current intake of fruits and vegetables. This very simple concept of 5-A-Day is a positive message for better health and complements the messages to cut down fat and increase fiber. In my view, this is a wonderful example of industry/government cooperation, and we are very happy to see that you are highlighting that in today's hearing.

Thank you. I will be happy to take part in the questioning.

[The prepared statement of Dr. Greenwald follows:]

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Statement of

Dr. Peter Greenwald
Director, Division of Cancer Prevention and Control
National Cancer Institute

Before the
Committee on Government Operations
Subcommittee on Human Resources and Intergovernmental Relations

Rep. Edolphus Towns, Chairman

September 13, 1993

Hearing on Diet and Cancer

Good morning, Mr. Chairman and members of the Subcommittee. I am Dr. Peter Greenwald, Director of the Division of Cancer Prevention and Control at the National Cancer Institute. I am pleased to have the honor to appear before you today to discuss NCI's research programs on diet and cancer.

The National Cancer Institute places a high research priority on the relationship between diet and cancer. While much remains to be learned, many basic principles have been established and progress has been made in reaching the American public with important dietary information relevant to the risk of cancer. We welcome the interest of the Subcommittee in this important topic.

We have a long research history in the area of diet and cancer, both in human population studies and research on carcinogenesis. Wide international differences and migration studies have provided key leads for research on diet and cancer. Epidemiologists have long looked at populations, rather than individuals, to determine the impact of lifestyle or environment on disease. When a large group of people moves from one country to another, they tend to adopt the eating behaviors of the new country. Cancer rates of the population that moved then change toward that of the new country. An early study of Japanese and Caucasian residents in Hawaii and Japanese residents in Japan showed that the Japanese migrants or their children developed cancer rates more and more like their American neighbors, and different from rates in their Japanese homeland. A simple explanation is that the traditional

Japanese diet is low in fat and the immigrants had adopted a new diet higher in fat, although other dietary changes also took place.

Although important information came from these population studies, there was a need for a coordinated research program to learn more about specific dietary mechanisms, and about how to achieve behavior changes that would lower cancer risk, thus in 1975 NCI established its Diet, Nutrition, and Cancer Program.

Based on the growing evidence related to diet and cancer, NCI Director Arthur Upton advised in 1979 a reduction in dietary fat, a generous intake of dietary fiber, moderation in alcohol consumption, avoidance of obesity, and ample fresh fruits and vegetables in the daily diet. These recommendations are still valid and can reduce the risk of heart disease, diabetes and other conditions as well as cancer.

In 1980, NCI commissioned the National Research Council of the National Academy of Sciences to conduct a comprehensive review of the scientific information on this subject and to develop recommendations regarding dietary guidelines and future research directions. One conclusion was that it may be impossible to propose a diet that would protect everyone against all forms of cancer, but a corollary was that it was possible to formulate guidelines that will reduce the risk of cancer. The following guidelines were suggested: reduce intake of both saturated and unsaturated fatty acids from 40 percent to 30 percent of calories as a practical target, noting that the data could be used to justify an even greater reduction; increase consumption of fruits, vegetables and whole-grain cereals; and practice moderation

in the use of alcohol. The best approach to a healthy diet is to have variety and to maintain the appropriate number of calories.

It has been estimated by experts such as one of the earlier witnesses at today's hearing, Ernst Wynder, that as much as 35 percent or more of cancer might be related to dietary components.

In 1988, The Surgeon General's Report on Nutrition and Health was published and concluded that ten cancer sites--lung, colon-rectum, breast, prostate, pancreas, leukemias, stomach, ovary, bladder, and liver-biliary cancers--account for 73 percent of all cancer deaths in the U.S. and that these cancers are all associated to some degree with diet. Both this Surgeon General's Report and a report on diet and health by the National Research Council in 1989 reviewed the extensive and growing research evidence linking diet to cancer risk.

Studies of carcinogenesis have shown the multiple steps in the development of cancer: genetic predisposition, tumor initiation, and promotion of the process of tumor development.

Nutrition plays an important role in maintaining a healthy body, and beyond that certain nutritional elements play an important role in the stability of a cell. For selected cancer sites such as the colon, heterocyclic amines, which are formed when meat is cooked at high temperature, may promote the process of cancer development. NCI is studying the risk of some naturally occurring chemicals in foods, as well as the effect of pesticide residues. NCI works closely with the National Institute of Environmental Health Sciences (NIEHS) and

other Federal agencies toward the identification of carcinogens in the environment. Other micronutrients, such as certain vitamins and beta-carotene, appear to protect the cell and to interrupt the process of tumor development. Studies are underway involving fat and alcohol, dietary components associated with increased risk for breast cancer. The studies are evaluating potential mechanisms of action. Research also continues on the relation of dietary patterns (for example, Mediterranean diet, vegetarianism, "meat and potatoes") to cancer risk, as well as the evaluation of the carcinogenic potential of suspected substances found in foods or formed during their preparation, such as the heterocyclic amines mentioned above. Still other studies use data from the newly developed carotenoid database to relate dietary intake of specific carotenoids to breast and lung cancers.

Today, we have the benefit of all these studies and can move into the 21st century with a broad research agenda on all aspects of nutrition and cancer. NCI has forged many working relationships with public and private groups so that information can be shared effectively and programs implemented efficiently. NCI has new prevention and chemoprevention clinical trials, broad public information campaigns, and studies in the basic mechanisms involved in nutrition and cancer.

As set forth by HHS in Healthy People 2000, NCI's dietary goals include the reduction of dietary fat intake to an average of 30 percent of calories or less and saturated fat intake to less than 10 percent of calories. Currently, Americans average 36 percent of calories from fat and about 13 percent from saturated fat. Another goal is to increase intake of complex

carbohydrates and fiber-containing foods among adults to 5 or more servings of fruits and vegetables and to 6 or more servings of grain products. The average American today consumes only an average of 2 1/2 servings of fruits and vegetables and 3 servings of grains.

NCI has continued to conduct epidemiologic studies and these have shown strong positive correlations between dietary fat and cancer incidence, particularly for post menopausal breast, and for colon and prostate cancers. A number of studies have shown the benefit of increasing dietary fiber and reducing fat on incidence of colon cancer. Other studies have been designed to separate out high calorie intake and obesity from other dietary factors in the promotion of various cancers. An NCI study of a rural, rather malnourished, Chinese population is about to be published reporting results from a study of dietary supplements, and many other studies of this type are needed.

Because there are important questions regarding the disproportionate cancer burden in minority populations, NCI conducted a multi-institutional randomized clinical trial in minority and underserved women to determine the feasibility of achieving a low-fat diet in order to determine whether such a diet will reduce post menopausal breast-cancer incidence. Building on that study, NCI is participating in the National Institutes of Health Women's Health Initiative (WHI) which will explore whether cardiovascular disease, cancer, and osteoporosis can be prevented or forestalled. The WHI is a randomized controlled clinical trial of promising approaches to prevention including a low-fat eating pattern, hormonal replacement therapy and calcium and vitamin D supplementation. The important aspect about

this trial is that it will deal with complex issues such as the cross effects of several interventions on multiple diseases end points.

Other dietary and behavioral factors are being studied. For instance the synergistic effect of smoking and alcohol on cancers of the mouth and throat have been documented. The heavy drinking smoker has a chance of developing oral cancer that is 15 times that of the nondrinking nonsmoker. The poor nutritional status associated with heavy alcohol use appears to have a multiplying effect on the risk of esophageal cancer.

But when we speak of diet we must also include factors that could retard cancer. Thus, dietary elements and micronutrients are also gaining importance in cancer chemoprevention. Foods high in Vitamin A and beta carotene may prevent the development of some cancers. To facilitate research in this area, NCI and the US Department of Agriculture (USDA) have developed jointly a carotenoid food composition database. This database provides the specific carotenoid content for 2,458 food items and is available from NCI. Studies of dietary fiber have shown it to have value in reducing colon polyps which are precursors to colon cancer. Currently, NCI and USDA are establishing a dietary fiber database to facilitate research.

NCI scientists have cautiously and continuously reviewed scientific data as well as designed and conducted a wide range of studies to fully elucidate the relationship between diet and cancer. Prudent advice to the public is totally consistent with ongoing research to answer

remaining questions and all public education campaigns are carefully designed and monitored.

Where special populations such as African Americans or Native Americans have disproportionately high cancer rates that could be reduced through lifestyle changes, NCI has designed special education programs. While diet is not the only reason for high cancer incidence and mortality rates among African-Americans, certainly tobacco use, alcohol, inadequate early detection and lack of medical care are involved, diet is nonetheless very important. The National Black Leadership Initiative on Cancer was established by NCI to draw on the expertise and authority in the African American community to carry important dietary and other risk-reduction messages. Following the success of the NBLIC, an Hispanic and an Appalachian Initiative have been started as well.

An NCI public-private educational effort entitled "5 A Day for Better Health" encourages the public to eat at least five servings of fruits and vegetables a day. In fact, "5 A Day Week" is being celebrated this week (September 13-20, 1993). The "5 A Day" goal is that Americans will double their current intake of fruits and vegetables. This very simple concept of "5 A Day" is a positive message for better health, and compliments our advise to cut down on fat and increase dietary fiber. "5 A Day" is a joint project of NCI and the Produce for Better Health Foundation, a food industry group. A portion of the project is devoted to grant applications, many of which were targeted at low income or minority groups. For example, we have one targeted at WIC (Special Supplemental Program for Women, Infants, and Children) in Maryland. Another portion supports a media campaign and project evaluations.

In FY 1994, a media campaign will begin to target "5 A Day" messages to African-Americans and Hispanic Americans. More than 628 industry members and 27 state health departments have joined in this effort. Already over 22% of Americans have gotten the message. When "5 A Day" began, only 8 percent of Americans knew that this level of intake of fruit and vegetables was desirable. The "5 A Day" program has been enthusiastically received across the country.

NCI coordinates its efforts with the Food and Drug Administration, the USDA, the Centers for Disease Control and Prevention (CDC) and its National Center for Health Statistics (NCHS), and other federal agencies. NCI and USDA are currently assessing fruit and vegetable intake among children. Another collaboration between NCI and USDA addresses the portion size of foods and will be helpful in developing dietary guidance. NCI participated in a workshop with NCHS and other organizations to draft consensus statements on nutrition monitoring and tracking the year 2000 objectives. Much of the nutrition activity of the "5 A Day" program will be carried out by state and local health departments. NCI is now licensing these agencies. CDC will provide coordination and technical assistance as the interventions are planned, implemented, and evaluated. The collaboration between NCI and CDC in this effort is a good example of interagency collaboration.

The public can obtain information about diet and cancer risk as well as about good nutrition during cancer treatment from the NCI Cancer Information Service. A trained information specialist can be reached by calling the toll-free phone number 1-800 4-CANCER.

NCI places a high priority on research on diet and prevention of cancer, as well as on clinical trials testing of diet and various micronutrients. NCI works with other public and private agencies as is necessary to conduct all needed studies and media campaigns. Any information that requires people to review, consider, and possibly change basic lifestyle patterns takes thought, multiple message reinforcements and time. The private sector, in particular the food industry, has been a willing and effective partner with government health agencies in the implementation of the "5 A Day" program and the development of a strategic plan to improve the American diet. Continued collaboration between health agencies and the food industry is essential if we are to reduce the burden of cancer in America.

Thank you for the opportunity to testify before this committee. I would be happy to answer any questions.

Mr. TOWNS. Thank you very much. Let me thank all three of you for your testimony. Dr. Greenwald, I looked through NCI's cookbook, entitled "Down Home Healthy," containing low-fat recipes for African Americans. I think it is really well done, and I was impressed with it.

Has NCI distributed the cookbook to the members of the Congressional Black Caucus?

Dr. GREENWALD. I am not sure that we have, but we would be delighted to.

Mr. TOWNS. I think it would be good because it could save a lot of lives.

Dr. GREENWALD. Yes, we certainly will do that.

Mr. TOWNS. I encourage you to do that.

Before we move forward, I would like to make certain that we establish some definitions. This hearing is focusing on primary prevention only. NCI has informed the subcommittee that primary prevention is the only prevention activity that is geared toward cancer occurring in the first place. And secondary prevention, for example, is basically geared toward treatment and diagnosis.

Are these definitions correct, and if not, could you please tell us what these definitions are?

Dr. GREENWALD. That is correct. In fact, I prefer calling "prevention" stopping the disease from occurring. I don't personally care for the words "secondary prevention." It really refers to screening; that is, detecting cancer early, when screening is effective.

There are some screening procedures that contribute to primary prevention. For example, if you detect abnormal cells in the cervix, a condition called dysplasia, you can treat it and prevent progress to cancer; since some polyps of the colon can cause cancer you can remove the polyps. So you can actually prevent the occurrence by removing the precancerous lesion. But, in general, we are talking about modifying life-style factors to prevent the onset of cancer in the first place. That is primary prevention.

Mr. TOWNS. Thank you. And I keep stressing that because when I look at the amount of money that we are spending and not accomplishing a whole lot, there is one thing that we all know, that the diet makes a difference. So I think that we should get that information out. That is why I suggested strongly you get that material to the Congressional Black Caucus, because that is one area where we can win and do well if we make certain to get the information out.

My next question is for Secretary Haas, and Dr. McGinnis. I was very pleased to hear that the USDA will improve the school lunch program by using more fresh fruits and vegetables. As I understand, the school lunch program is only one component of the food and nutrition program.

Because the Federal Government has the potential to reach so many Americans' diets, could you tell us what programs USDA and HHS plan to implement to integrate NCI's dietary recommendations? How will you bring this into play?

Ms. HAAS. Certainly, Mr. Chairman.

To begin with, our approach has been to integrate the dietary guidelines recommendations into our nutrition education efforts and into our programs. And NCI's recommendations are consistent

with those same recommendations to lower fat to 30 percent of calories from fat in the various programs that we have. WIC is the largest one for nutrition education, where we spent in fiscal year 1992, \$141 million to bring nutrition counseling and nutrition education to these vulnerable women, infants and children.

I was appalled when I got to the Department to see in our Food Stamp Program, which serves more than 27 million needy people, that we did not spend more than one-tenth of 1 percent of our budget on food stamps on nutrition education. In the future, you have our word that we are going to change that and make sure that nutrition education is an integral part and is available to food stamp participants.

In the school lunch program, we are embarking now on a major process to meet nutrition objectives for school meals with our hearings and public comments so that we can develop policies that will integrate these dietary recommendations.

Mr. TOWNS. Thank you very much.

And now I see the red light is on, and I respect it too. I yield to my colleague, Mr. Sanders.

Mr. SANDERS. Thank you very much, Mr. Chairman. Let me start off by asking Secretary Haas an easy question. We will get harder as we go along.

You mentioned four locations around the country for those very important public meetings that you will be having on nutrition and health. I don't see a location in New England. Could we prevail upon you maybe to put one in?

Ms. HAAS. We also are going to have our hunger forums, and there is going to be one in New England.

However, let me say this. We could not be in all areas, but we are soliciting public comments, and we hope that parents and teachers and health professionals and school lunch administrators and consumers all will send in their written comments to us in this process. It is just the beginning of the process.

Mr. SANDERS. We hope you won't forget us in New England.

Ms. HAAS. We will never forget you.

Mr. SANDERS. Let me start off with the hardest question. It gets easier from there. That is, I think, Dr. McGinnis made a point—we are going to hear it many times this morning—we talked about smoking and tobacco, and now we are talking about nutrition and diet. We are beginning to use those phrases in the same sentence.

Right now, the vast majority of the American people know that smoking kills, smoking causes cancer, heart disease, and other diseases. Among other things, the Congress, the Government of the United States has said that Chesterfield and Marlboro cannot advertise on television. My guess is that taxes are going to go up significantly on cigarettes, et cetera. In other words, the country, and the leadership of this country, is developing a strategy to try to keep people from smoking.

Let's talk about nutrition. There was a program on PBS—you may be familiar with it—produced by MacNeil/Lehrer, "Eat Smart." They begin the program by taking a hypothetical average American family. Their young teenaged boy, Lance Johnson, goes to a school which has McDonald's doing the catering in the school, which I gather is not uncommon in this country. They quote on the pro-

gram that he eats an ordinary breakfast and he goes to lunch and eats a double cheeseburger and fries at lunch which adds about another 50 grams of fat and 100 milligrams of cholesterol; that is, the cheeseburger and fries.

Are we reaching the stage in our understanding of cancer and disease where we are going to have to look at that basic American staple that many of us have feasted on for years—cheeseburgers and fries—as a danger to American health in the same sense we now regard cigarettes and tobacco?

Dr. Greenwald, do you want to take a shot at that?

Dr. GREENWALD. I think we are reaching the stage, but you have to look at what people eat in their overall diet. I don't think you can pick one meal or tag one food. But I think you do have to look at the overall variety and balance in the diet, and that should change.

One thing that we have been happy to see is that much of the food industry and marketing industry has been responsive. The choices are there. To some extent, the fast food industry at least has put some choices there. But I think we do have a way to go, and that the final message should be, for example, that we don't count french fries as vegetables, even though we might count potatoes cooked in some other form.

I think we do have to understand from childhood and on through later life that what you eat affects your chances of getting cancer. It affects your chances of getting other major chronic diseases. You can have a healthier, happier life by changing your diet.

Mr. SANDERS. Let me be a little more specific. I know this is a controversial issue. Forty or fifty years ago there were probably people in this Congress saying, "cigarettes kill." And there was a tremendous array of, quote-unquote, "experts" and a whole lot of money from the tobacco industry saying, "Forget that; we don't want to discuss that." Finally, after years and years of struggle, progress was made on that area.

Let me be specific again. McDonald's. Burger King. They spend tens and tens of millions of dollars telling our people that double cheeseburgers and french fries are good. I am suggesting, or I am hearing evidence it may not be so good, it may be dangerous to our health.

Does somebody else wants to respond? How should we respond to McDonald's and Burger King telling our kids to eat double cheeseburgers and french fries?

Ms. HAAS. To begin with, we haven't been out there in the same aggressive marketing sense with nutrition messages. And I think that is what we have got to do. We have got to compete with the food ads, we have got to compete with the light shows.

Mr. SANDERS. Does anyone know how much McDonald's spends a year on advertising? You are not going to have that much money for a long time. Somebody just suggested to me that McDonald's spends \$700 million a year on advertising. That is one fast food company.

Ms. HAAS. Our competition is not necessarily with a particular company. Our competition is with dietary patterns. It is with too much fat in the diet, in particular. And I think you can leverage the money and the investment of the Federal Government so that

you can have public/private partnerships and community activities. And I think what NCI has done with 5-A-Day has been one where we see the beginnings.

You can leverage the investment, again, where the Federal Government can do things with the media and get on the television and do things that are also done in the local communities. As Dr. McGinnis said, which—he is really right, this cannot be federalized, however, this has got to be community based.

But what has been missing for all these years of nutritional negligence is leadership. There has not been the kind of leadership to go out and counter the messages that have been promoting fat with messages of reducing fat in the diet.

And I think the change that has been brought by the Clinton administration will see the kinds of results and at least the beginnings of thinking differently without banning hamburgers.

Mr. SANDERS. Am I being tyrannical in comparing the average fast-food fare with the problems associated with tobacco?

Dr. MCGINNIS. I wouldn't say too radical. Perhaps, as usual with your leadership, you may be a little ahead of the times.

Mr. TOWNS. That is nothing new for him.

Dr. MCGINNIS. The important thing to bear in mind here if you are asking: Is the science base on dietary factors related to disease outcomes as strong as the science base on tobacco's relationship to lung cancer, for example? The answer is, no, because it is a much simpler issue. There is a single exposure, and a very definable nature of that exposure.

With dietary patterns, they are much more complex. We have multiple nutrients involved in every factor in eating. So you need a much larger research base in order to draw definitive conclusions.

We have very good evidence on the issue of diet and heart disease, and we have growing evidence on the issue of cancer. From all of these scientific perspectives a sense is emerging of the kind of dietary patterns that will improve the health of the American people in the aggregate and improve it substantially.

Mr. SANDERS. Thank you very much.

Mr. TOWNS. Thank you very much, Congressman Sanders.

Dr. Greenwald, if the incidence rate of cancer has increased by 32 percent, it is safe to say that we are not winning the war against cancer. Why does primary prevention, receive only 15 percent of your budget?

Dr. GREENWALD. I think we certainly do have a long way to go. I think we have made progress, but we certainly have a long way to go in fighting cancer. We have tried to build up both prevention and nutritional science, and in fact the rate of growth of prevention research funding at NCI has been a little better than NCI as a whole.

One of the limiting factors is not just our budget, but we need a strong commitment from the major biomedical research institutions across the United States. Mr. Sanders raised a point about teaching in medical schools. That curriculum is deficient in nutritional science. We don't have, as the main thrust of many of our biomedical research institutions, nutrition and prevention. There is some emphasis, and the interest and emphasis is growing, but we

really have to build up the pool of sciences and scientists that are addressing this issue. Part of it is a budgetary issue, but we really have to look across the board at our major research institutions.

Mr. TOWNS. Dr. Greenwald, I have an article that you wrote a few years ago in which you stated that, "... the ultimate success of cancer prevention depends on what individuals do with this information, how they perceive, accept, and act upon it. For cancer prevention to become a reality, advances must be made in health promotion and information, in clarifying knowledge for the public, and motivating them to make changes in their lifestyle." Is NCI charged with the responsibility of health promotion information? If so, how much of NCI's budget is allocated to this?

Dr. GREENWALD. Yes, we have a shared responsibility. I think most of us would say the main responsibility of NIH and NCI is research, but we certainly have a very strong responsibility in translation of the research and informing the public about it. I will have to get you the budget of our Office of Cancer Communications, which would be the figure that I think you are asking for. I don't think I have it here.

Mr. TOWNS. With no objection, the record will remain open in order to receive that.

[The subcommittee received the following information from NCI subsequent to the hearing:]

The NCI estimates it will spend about \$116 million in FY 1993 on information dissemination activities, which include pamphlets and press releases, NCI's toll-free Cancer Information Service (1-800-4-CANCER), and prevention and control research projects whose endpoints (such as diet and cancer prevention information) must be translated into public outreach and education initiatives.

Mr. TOWNS. Dr. McGinnis, and Dr. Greenwald: If NCI's mandate is cancer research and not public intervention, why should we continue to provide this enormous sum of money for cancer research, especially when we are not reducing the overall incident rate of cancer? Who should take the leadership in telling Americans about cancer prevention?

Dr. MCGINNIS. Well, let me take a first stab at that. Clearly, the National Cancer Institute should take—have—a leadership role in telling Americans about their dietary influences on cancer occurrence. And it is important to point out that the NCI budget isn't devoted only to basic research, that certainly within the purview of NCI's research mandate is the need to demonstrate and evaluate various candidate interventions in helping to change people's risks for cancer. That is why we have—we have seen such important leadership provided to this point.

It is also, I think, important to point out that a fair amount of the basic research that is sponsored by the National Cancer Institute is ultimately quite useful in primary prevention programs. So it is difficult to parsel out one from the other. However, despite the fact that I have noted that NCI has an important mandate for cancer prevention programs per se, that doesn't obviate the need for other aspects—other components of the Department of Health and Human Services to move forward aggressively in concert with our colleagues in the Department of Agriculture.

As you know, most of the major moneys that are appropriated for nutrition education activities are appropriated to the Department

of Agriculture. So we rely heavily on them, working along with our agencies such as the Centers for Disease Control and Prevention and the Food and Drug Administration to carry this message forward.

Dr. GREENWALD. I could point out that within the NCI budget there is a part called cancer control, which has a real charge to it of achieving translation and public benefit from the research we do. Included within that is a lot of the prevention research. That budget this year, 1993, is about \$105 million.

We also have cancer centers placed across the United States. The comprehensive cancer centers, while they largely do research, have a responsibility for outreach; for helping us to reach underserved and minority populations, and publicizing the information. So there are several programs aimed at public information. I think it is an important part of our responsibility. I take your point on that. We should be doing it, and I believe we are.

Mr. TOWNS. I see the red light is on. I yield to my colleague, Congressman Sanders.

Mr. SANDERS. Thank you, Mr. Chairman. My questions are very much in the same direction that yours are, but let me start with a question to Secretary Haas.

A 1992 USDA study on child nutrition programs—I am sure you are familiar with that because we know you had a prior life in this area before you came here, and I congratulate you on your work.

Ms. HAAS. I don't know how you knew that.

Mr. SANDERS. The findings of that study showed that only 3 percent of all schools studied met the dietary guidelines for calories for fat, and no schools, as I understand it, met the guidelines for saturated fat and sodium.

While the studies measured cholesterol, sodium, carbohydrates and protein, is it true that the USDA/HHS guidelines do not provide specific recommendations for these categories?

Ms. HAAS. No. It is my understanding that the dietary guidelines would be available for school lunch purposes, if that is your question. Because they are for use for children over the age of two, so that they would pertain—

Mr. SANDERS. So you feel they do provide those guidelines?

Ms. HAAS. Yes, absolutely.

Mr. SANDERS. Let me ask this, do you endorse the National Research Council's recommendations for these important indicators of health intake and including them in the USDA guidelines for children's nutrition programs?

Ms. HAAS. They should be a basis. As I cited in my formal testimony, the National Academy of Science's or the National Research Council's reports, and their recommendations, are the various recommendations that provide the basis of our policies. However, if you are getting at whether our school lunch programs meet those recommendations, no, they do not at this present time.

Mr. SANDERS. There is a lot of discussion lately about reinventing government and I think perhaps this is an area we can maybe use a little reinvention. And that is we all recognize we have a problem, there is no argument here that the school lunch programs are not providing kids with the nutrition that they need, no argument on that, right? Yet we have a number of agencies who

are all overlapping on this area. My hope would be that out of hearings like this and meetings amongst yourselves we can develop a coordinated strategy where somebody can take responsibility for saying our goal is in 5 years to significantly improve the quality of food that our kids in the school lunch program eat.

Ms. HAAS. I could not agree with you more. In fact, we cannot do any of these nutrition policies at the Department of Agriculture in isolation without our colleagues at the Department of Health and Human Services or the National Institutes of Health, whether it be NCI or Heart, Lung and Blood Institute. So we will be inviting each of those agencies to be a part of our hearing process, as well as the Department of Education.

When children in some schools go into a school lunch cafeteria and have 15 minutes to go through the line, choose their food, sit down and eat, it is very hard to have a healthy lunch.

So I have already met with my counterparts at the Department of Education to talk with them as well about developing policies that we can have jointly to improve the nutritional quality of our school lunches. We are just beginning on this process and we hope to work with your committee as well, because I think it is very important.

Mr. SANDERS. Thank you.

Let me just ask, I understand that Dr. McGinnis referred to the 5-A-Day Program as the largest public-private partnership ever undertaken by NCI, is that correct?

Dr. MCGINNIS. I think that was Dr. Greenwald who made that reference, but I would certainly agree.

Dr. GREENWALD. That is true, yes.

Mr. SANDERS. OK. My understanding is that the NCI contribution is \$4 million over 4 years. Is that correct?

Dr. GREENWALD. No, sir. The fiscal year 1993 amount budgeted was \$4.4 million.

Mr. SANDERS. For 1 year?

Dr. GREENWALD. For the first year. We don't have our final budget figures yet for fiscal year 1994. We are hoping to add a little more to the program in fiscal year 1994.

Mr. SANDERS. Because you estimate maybe \$25 million over a 5-year period, more or less, is that—

Dr. GREENWALD. Yes, we gave out 4-year grants, which totaled \$4 million per year for a total of about \$16 million.

Mr. SANDERS. Sixteen.

Dr. GREENWALD. And on top of that, I hope we can build up to about \$1 million for the year for the national communications effort and evaluation.

Mr. SANDERS. I would simply point out, and again when McDonald's spends \$700 million pushing their particular product and their approach to diet, that is not a whole lot of money.

Dr. GREENWALD. I agree. But that is why the partnership with the Produce for Better Health Foundation is so important. As you will hear from them, a tremendous amount is accomplished through that effort where NCI is really coming up with some of the messages and the scientific backup.

Mr. SANDERS. OK. Do we expect that out of the discussions that have been going on, that there will be closer cooperation between

the various agencies in, a: getting the word out, and, b: improving our school lunch programs? And we didn't touch upon the prison population, the veterans and the soldiers and so forth and so on. We are feeding a whole lot of people every single day and it seems to me the Federal Government can play a wonderful leadership role and provide an example to all of us in terms of the programs that they are providing. So can we expect to——

Dr. GREENWALD. We are all committed to that and to working with you, yes.

Dr. MCGINNIS. If I could just add one word to that of Secretary Haas' related to school nutrition programs. Not only have USDA and HHS worked to develop jointly, guidelines, that are disseminated to every school system in the country, on ways to reach the dietary guidelines for meals provided to kids, but there is an unprecedented commitment on the part of the Department of Education. We have had extensive discussions with the Department of Education in the context of the reauthorization for chapter 1 schools, which of course are programs going to those most vulnerable. And they have expressed a very strong interest in improving the nutrition and health components of programs provided to those schools. So I think it is quite right to say that there is a very strong spirit of collaboration.

Mr. SANDERS. Mr. Chairman, could I ask one brief question? I know I have gone over my time. Do we have money available or programs available that say to school districts—and I come from a rural agricultural State, and you can't go around the roads of Vermont now without seeing farm stands selling corn and tomatoes, cucumbers, so forth and so on—is there practical money available to say to local school districts, go out and buy local produce or sign contracts with local farmers to produce the product that you might want?

Ms. HAAS. Hopefully, that is the direction that we want to move in. We do have one very important program that is very small which is the WIC Farmers Market Program.

Mr. SANDERS. That is exactly right.

Ms. HAAS. And this year—the appropriation has only been \$3 million a year—but this year I think it went up to \$5 million for the coming year. This is a program that is only in 11 States. We want to expand it further. And that is the kind of effort that I think we want to see.

Mr. SANDERS. That is exactly the model that I was thinking of. But do you think it makes sense to also explore allowing school districts to purchase local produce from local farmers?

Ms. HAAS. This is exactly why we are having our hearing, "Nutrition Objectives for School Meals" to examine the kinds of policies and programs we can establish within the Department of Agriculture. I think that is a great suggestion and one that I hope we can work with you on further.

Mr. SANDERS. Because it will help the family farmer as well as the schools and the children.

Ms. HAAS. Absolutely. That is a win/win, both for farmers and consumers.

Mr. TOWNS. Thank you very much.

Let me thank all of the witnesses. I think you have been extremely helpful, and as you have indicated we have a lot of work to do. I am happy to know that at least you are talking to the Department of Education; that is very important to assure change. In addition we must begin to get this information into some of our senior programs so that they have something other than "cheese" to eat. Thank you very much.

Ms. HAAS. Thank you very much.

Mr. TOWNS. I would like to call the second panel of witnesses. This panel will consist of Dr. Adriane Fugh-Berman, medical advisor to the National Women's Health Network, Dr. Berman; Dr. Harold Freeman, director of surgery, Harlem Hospital Center, and chairman of the President's Cancer Panel; Dr. Ernst Wynder, founder and president of the American Health Foundation; and Dr. Michael Jacobson, executive director of the Center for Science in the Public Interest.

As I explained to the previous panel, the text of your written statement will be inserted in the record. I ask that you summarize your statements to approximately 5 minutes.

So why don't we begin with you, Dr. Fugh-Berman. And am I pronouncing that correctly?

Dr. FUGH-BERMAN. It is Fugh-Berman.

Mr. TOWNS. Almost.

STATEMENT OF ADRIANE FUGH-BERMAN, M.D., MEDICAL ADVISOR, NATIONAL WOMEN'S HEALTH NETWORK

Dr. FUGH-BERMAN. Thank you for the opportunity to address this committee.

What we eat clearly affects cancer risk. The reason that research is so important in this area is because although we all have different exposures to various carcinogens, we are all regularly exposed to food.

While we vainly pursue magic bullet cures, it becomes increasingly clear that the point at which cancer is diagnosed is an inefficient and often ineffectual point of intervention. Prevention is not only cheaper, more effective and more pleasant than treatment, it is clearly our best hope for reducing mortality.

In this country, we are both overgrown and undernourished. Obesity, tallness, and early age of menarche, which is a weight-dependent phenomenon, are all risk factors for breast cancer.

Fat, fiber, vitamins, minerals and specific plant compounds all play a role in effecting cancer rates. I won't go into detail on this, Dr. Wynder will do that later. By the way, the 30 percent of calories from fat that has been talked about today is not good enough to prevent breast cancer. For instance, there is no evidence that dietary fat intakes over 20 percent are protective. It has to be 20 percent or below.

There are essentially two ways in which cancer can be prevented. One is to reduce exposure to factors which cause or promote cancer, and the other is to strengthen the body's mechanisms for dealing with carcinogens or coping with precancerous changes.

The National Cancer Institute has largely ignored both goals. Apparently under the delusion that smoking and asbestos are the only avoidable carcinogens, NCI has given true prevention short shrift.

NCI's claim that a third of its budget goes toward prevention comes from a tortuous stretch of the word "prevention." Although NCI has turned down every proposal for a large scale trial that would have looked at the link between low fat diet and cancer, it has championed mammography, apparently being confused about cancer detection and cancer prevention.

By the way, given the mediocrity of our breast cancer treatments, the value of mammography approaches the value of falling rock signs on mountain roads. Knowledge of the danger ahead does not necessarily reduce the risk.

In another novel interpretation of the concept of prevention, NCI is spending \$60 million on the tamoxifen breast cancer prevention trial, in which a drug known to cause uterine cancer in humans and liver cancer in rats is being given to healthy women. It is indicative of NCI's misguided vision that its showpiece cancer prevention study actually gives a carcinogen to subjects.

We have heard that the 5-A-Day Program will spend \$16 million to \$20 million over 4 years. Again, the tamoxifen trial is \$60 million. Research priorities on cancer should be revamped. Rather than pursuing additional toxic cancer treatments, environmental, occupational, and lifestyle contributions to carcinogenesis should receive focused attention. Prevention programs should deemphasize high-tech, profitable, risky interventions and concentrate on nontoxic disease interventions, such as decreasing exposure to carcinogens, exercise, and a healthy diet. And dietary trials must focus on minimizing carcinogens and maximizing cancer-fighting substances in our food.

Crucial questions about diet and cancer remain unanswered. These include: What are the racial, ethnic, and biochemical differences in how nutrients are metabolized? Is there really one ideal diet for all humans? How does palatability of food affect absorption? Is vegetable fat intrinsically preferable to animal fat? What role do different oils and contaminants that are carried in those oils play in carcinogenesis? How do various micronutrients and macronutrients interact with each other? Are nutritional supplements equivalent to food in terms of biological effect? And what are the most effective ways to educate people to change their diets?

Research into the unanswered questions surrounding dietary factors in cancer is vitally important, but we certainly have enough information to recommend that Americans consume a high-fiber, low-fat diet with lots of fruits and vegetables.

Different populations, however, have very different access to fresh produce. Availability, price and quality vary tremendously in different neighborhoods. In low-income communities, fresh produce tends to be limited and expensive. While supermarkets in affluent areas may have a stunning assortment of fruits and vegetables, variety and freshness both suffer in poor communities.

A third grade teacher in Elizabeth, NJ, brought in some fruits and vegetables to her class and several of the children could not identify carrots, peppers, and other produce in its natural state. Healthy eating habits must be developed in children. Our food choices are made early and are among our most tenacious habits.

Is the Federal Government doing enough to educate the American people about the importance of diet in preventing cancer? No, although the 5-A-Day Program is a good start.

But all fruits and vegetables are not created equal. Iceberg lettuce, for instance, is almost nutrient free, and apples, despite being enshrined in the apple-a-day rhyme, have little nutritional value.

Consumers need decent produce and more information and guidance on how to change cooking habits or how to prepare unfamiliar foods. We need to sponsor community cooking classes. The way to make someone try a new food is to make it for them. And educational events, take it from an old organizer, are always better attended if there is food. Classes where attendees get to taste the fruits of their labors would be ideal.

It is important that different agencies of the government give a consistent message to consumers. There must be some mechanism by which the NIH, the USDA, NIOSH, EPA, and CDCP can coordinate in order to decrease dietary carcinogens and give consumers the knowledge and tools with which to change dietary habits.

Mr. TOWNS. Thank you very much.

[The prepared statement of Dr. Fugh-Berman follows:]

Testimony before the
Human Resources and Intergovernmental Relations Subcommittee
of the House Government Operations Committee

"America's Diet: Are We Losing the War Against Cancer?"

September 13, 1993

Adriane Fugh-Berman, M.D.
National Women's Health Network
Taoist Health Institute

What we eat clearly affects cancer risk. Research into this area is vital because while we may have varying degrees of exposure to tobacco, asbestos, and other carcinogens, we are all regularly exposed to food.

Although much is known about the links between diet and cancer, the field is still in its infancy, primarily because our research emphasis has been on cancer treatment rather than cancer prevention. Although we have achieved some successes (mainly in childhood cancers), overall cancer mortality rates have not changed significantly in forty years.

While we vainly pursue magic bullet cures, it becomes increasingly clear that the point at which cancer is diagnosed is an inefficient (and often ineffectual) point of intervention. Cancers go through an extended period of negotiation with the immune system before they make their presence known. Prevention is not only cheaper, more effective, and more pleasant than treatment, it is clearly our best hope for reducing mortality.

How does eating affect cancer risk? Extreme caloric restriction decreases tumor rates in rats, but the semi-starvation school of cancer prevention is unlikely to find many followers. Some caloric restriction is desirable, however: in this country we are both overgrown and undernourished. Obesity and tallness both increase the risk of breast cancer. Menarche, the age of first menses, is a weight-dependent phenomenon: fat girls menstruate earlier and thin ones later. Early menarche is a risk factor for breast cancer, so discouraging obesity and encouraging athleticism in adolescents is a good idea.

Dietary fat intake has been linked to increased risk of prostate, breast, colon, and ovarian cancer. Not only do fats concentrate pesticides and hormones, but fats have profound effects on hormone levels and thus cancer risk. Different kinds of fat may have entirely different effects, and these differences must be elucidated.

Fiber may reduce the risk of cancer by various mechanisms: by speeding intestinal transit, carcinogens have less contact with intestinal walls. Also, a fiber-rich diet drags estrogen out of the intestine before it can be recycled by the liver, thus reducing the total body exposure to estrogen.

Vitamins and minerals play an important role in cancer prevention.

Albanes D (1992). Energy intake and cancer. In *Macronutrients: investigating their role in cancer*. Ed. Micozzi MS and Moon TE. Marcel Dekker, Inc. New York, Basel, Hong Kong.

Miller AB (1992). Dietary fat. In *Macronutrients: investigating their role in cancer*. Ed. Micozzi MS and Moon TE. Marcel Dekker, Inc. New York, Basel, and Hong Kong.

A recently published analysis of the Nurse's Health Trial data found that vitamin A intake is linked to a lower incidence of breast cancer. High dietary levels of folic acid, a B vitamin, lower the risk of colon cancer.⁴ Animal data suggests that calcium and vitamin D intake may be important in preventing gastrointestinal⁵ and breast cancer⁶. Few people achieve the recommended daily allowance of calcium in their diets. Milk is fortified with Vitamin D (necessary for the absorption of calcium) but milk products such as yogurt and ice cream are not. Many African-Americans and Asian-Americans cannot tolerate milk sugar, and so are not receiving the benefits of vitamin D-enriched milk.

Vitamin D is the only vitamin that humans can manufacture (with the help of a little sunshine), but those of us in urban or industrialized parts of the country get little sun, and there are higher rates of breast cancer in cities where the incident light is low.

Retinoids (the vitamin A family), and antioxidants such as vitamin C, vitamin E, and selenium may also have important roles in cancer prevention. Merely supplementing the diet via pills or fortification of food, however, does not give us all of the benefits of plant foods, which contain many anti-cancer compounds that are not vitamins or minerals. For example, soybeans contain phytoestrogens, which actually decrease our own estrogen production and thus may help to protect against breast and other hormone-dependent cancers.

There are two ways in which cancer can be prevented. One is to reduce exposure to factors which cause or promote cancer, and the other is to strengthen the body's mechanisms for dealing with carcinogens and precancerous changes. The National Cancer Institute (NCI) has largely ignored both goals. Apparently under the delusion that smoking and asbestos are the only avoidable carcinogens, NCI has given true prevention short shrift. NCI's claim that a third of its budget is spent on prevention comes from a tortuous stretch of

³ Hunter DJ, Manson JE, Colditz GA et al. (1993). A prospective study of the intake of vitamins C, E, and A and the risk of breast cancer. *NEJM* 329, 234-240.

⁴ Giovannucci E, Stampfer MJ, Colditz GA et al (1993). Folate, methionine, and alcohol intake and risk of colorectal adenoma. *JNCI* 85 (11), 875-884.

⁵ Wargovich MJ. Calcium, vitamin D, and the prevention of gastrointestinal cancer (1989). In *Nutrition and Cancer Prevention: investigating the role of micronutrients*. Ed. Moon TE and Micozzi MS. Marcel Dekker Inc. New York and Basel.

⁶ Newmark H. Vitamin D adequacy: a possible relationship to breast cancer. Presentation at the American Institute for Cancer Research annual research conference, September 2-3, 1993.

the word "prevention". Although NCI has turned down every proposal for a trial examining whether a low-fat diet protects against breast cancer, the institute has championed mammography, which comes under the category of cancer detection, not cancer prevention. (Given the mediocrity of our breast cancer treatments, the value of mammography approaches the value of "falling rock" signs on mountain roads: knowledge of the danger ahead does not necessarily reduce the risk.)

In another novel interpretation of the concept of prevention, NCI is spending 60 million dollars on the tamoxifen breast cancer "prevention" trial, in which a drug known to cause uterine cancer in humans and liver cancer in rats is being given to healthy women. It is indicative of NCI's misguided vision that its showpiece cancer prevention study actually gives a carcinogen to subjects.

Identification of food-borne carcinogens has not been a priority of the National Cancer Institute. For example, there is growing evidence that organochlorine pesticides are associated with breast cancer, but NCI continues to minimize the role of pesticides in causing cancer.

Research priorities in cancer should be revamped: rather than pursuing additional toxic cancer treatments, environmental, occupational, and lifestyle contributions to carcinogenesis should receive focused attention. Prevention programs should deemphasize high-tech, profitable, and risky interventions in favor of decreasing exposure to carcinogens, promoting exercise and a healthy diet, and other forms of non-toxic disease prevention. Dietary trials should focus on minimizing carcinogens and maximizing cancer-fighting substances in our food.

Intensive research into the role of specific nutrients is essential, but as Dr. Marc Micozzi, an authority on diet and cancer, states, "We eat food, not nutrients". People's total diet must be examined. A collection of dietary supplements doesn't replace a healthful diet; a vitamin pill doesn't cancel out a Twinkie.

Crucial questions about diet and cancer remain unanswered. These include:

What are the racial, ethnic, and individual biochemical differences in how nutrients are metabolized: is there really one ideal diet for all humans?

How does palatability of food affect absorption?

Is vegetable fat intrinsically preferable to animal fat? What role

¹ Wolff MS, Toniolo PG, Lee EW, et al (1993). Blood levels of organochlorine residues and risk of breast cancer. JNCI 85 (8), 648-652.

do different oils, and contaminants in those oils, play in carcinogenesis?

How do various micronutrients and macronutrients interact with each other?

Are nutritional supplements equivalent to food in terms of biological effect?

And what are the most effective ways to educate people to change their diets?

Research into the unanswered questions surrounding dietary factors in cancer is vitally important, but we certainly have enough information to recommend that Americans consume a high-fiber, low-fat diet rich in fruits and vegetables.

Different populations, however, have different access to fresh produce. Availability, price, and quality vary tremendously in different neighborhoods. In low income communities, fresh produce tends to be limited and expensive. While supermarkets in affluent areas may have a stunning assortment of fruits and vegetables, variety and freshness both suffer in poorer communities. While a suburban salad may include arugula, radicchio, and nasturtium blossoms, an inner city salad may be a sad dish of brown-edged iceberg and anemic tomatoes, at premium prices.

A third grade teacher in Elizabeth, N.J. brought in some fruits and vegetables and several of the children could not identify carrots, peppers, and other common produce in its natural state. Healthy eating habits should be developed in children: our food choices are made early and are among our most tenacious habits.

Is the Federal government doing enough to educate the American people about the importance of diet in preventing cancer? No, although the 5 a day program is a good start. It's a simple catchy concept that should remind people to pay attention to one aspect of their diet.

Of course, five servings of French fries a day won't improve anyone's health, and even if deep-frying is avoided, all fruits and vegetables are not created equal. Iceberg lettuce, for instance, is almost nutrient-free, and apples, despite being enshrined in the apple-a-day rhyme, have little nutritional value beyond some soluble fiber.

Consumers need decent produce, more specific nutritional information, and guidance on how to change cooking habits or how to prepare unfamiliar foods. For example, greens and vinegar are a great combination, but adding vinegar to the cooking pot leaches all the calcium into the cooking water. Adding the vinegar after rather than before cooking preserves the calcium and even increases bioavailability. .

We need to sponsor community cooking classes. The way to make someone try a new food is to make it for them, and educational events are always better attended if food is provided. Healthy cooking classes where attendees get to taste the fruits of their labors would be ideal.

It is important that different agencies of the government give a consistent message to consumers. There must be some mechanism by which the NIH, the USDA, NIOSH, EPA, and the CDCP can coordinate in order to decrease dietary carcinogens and give consumers the knowledge and tools with which to change dietary habits.

Mr. TOWNS. Dr. Wynder.

**STATEMENT OF ERNST WYNDER, M.D., FOUNDER AND
PRESIDENT, AMERICAN HEALTH FOUNDATION**

Dr. WYNDER. Mr. Chairman, I am also delighted to be here.

My research in the cancer field has taught me three lessons: First, that cancer is not an inevitable consequence of aging; second, that we can prevent cancer without knowing the precise mechanism; and, third, that most cancers are related to metabolic overload, particularly in terms of what we smoke, drink, and eat. In other words, what we need to do is practice better lifestyle medicine.

The evidence for nutrition has been reviewed by Dr. Greenwald. It is important that we clarify what we think is an optimal diet, as the previous speaker just indicated. I think 30 percent calories of fat is not optimal; 25 percent for the general population is better. We need also to eliminate the term percentage of calories because no one eats percentages, we eat grams, and 25 percent is about 50 grams of fat per 1,800 calories.

I am pleased to report that the National Cancer Institute has recently funded the American Health Foundation to conduct a study to put stage I and II pre and postmenopausal breast cancer patients on a 15 percent fat diet. This will be a randomized trial.

I must also say it took us quite a number of years to convince our peers in the oncological community that diet could be used as an adjunct with other standardized treatments.

I would like to make three specific recommendations on how we can make management of nutritional research at the NCI perhaps even better. One, we need to establish at NIH a study section for cancer prevention and control. Members of the study section would include those experienced in nutritional research as it relates to cancer prevention control as well as be recognized experts in the overall area of prevention control. The establishment of this study section would guarantee that proposals for cancer prevention control programs are judiciously evaluated and rated.

Two, make available additional funding to the National Institutes of Health and the NCI for contract-supported research. This would enable the leadership of the National Cancer Institute and the expert advisory panels to support high-quality research activities that may be of a higher risk and perhaps higher societal benefits, but less likely undertaken and funded by the usual principal-investigator-initiated RO-1 grant application. Some nutrition-related studies, important from a practical perspective, typically fall short in this particular category.

Three, establish several NIH research centers that would specialize in nutrition-related cancer studies. This would provide the "critical mass" necessary to undertake successful programs in multidisciplinary nutritional basic research, applied research, and nutrition education. With such centers operating in various parts of the country, significant impetus would be given to further explore the relationship of nutrition to the initiation, promotion, and progression of various human diseases, including cancer.

My fourth recommendation is more general and goes to the very heart of where I believe we need to go in this country in health

education. It must begin in our school system. We need to have, as Mr. Sanders indicated, comprehensive school health education from K through 12 in every elementary school as well as every preschool in this Nation. Not only related to nutrition, not only related to tobacco, not only related to sexually caused diseases, not only related to alcohol, but to all of these. We want to encourage practicing multifactoral intervention.

I had this morning a meeting already with Ms. Kristine Gebbie, the Federal AIDS coordinator, and I suggested to her that AIDS education also needs to be part of a comprehensive program that we need to institute in every school in this country. It would be cost effective. It must have high quality. It must include health screening for every child. It must include, in addition to the multifactoral program, a health education coordinator for every school in this country. And anyone in Congress who asks me how much it costs, he or she doesn't know how much the disease delivery system that we have today costs our Nation. So, if I could encourage this committee, with other committees, to work toward such a program in this Nation, we would have a healthier society.

And as an aside, we do have such a program in Israel, and recently I got a notification that the Arabic schools in Israel would like to participate. Such a program would be a wonderful export that this Nation could give to other countries because throughout the world children are the same and children relate to our messages. And in terms of messages, we ought to recall a motto that Confucius gave us many years ago: "Tell me, I forget; show me, I remember; involve me, and I understand." It is clear as we talk about health promotion, that we need more than talking, we need to have involvement.

And as a final point, on another final motto, which I also borrowed probably from Hippocrates: "It should be the function of medicine to help people die young as late in life as possible."

As we think about good health reform, the suggestions would be a good means of reducing the health care costs in our country. What we do about nutrition will certainly be a key determining influence as to whether this motto will apply to all of us.

Mr. TOWNS. Thank you very much, Dr. Wynder.

[The prepared statement of Dr. Wynder follows:]

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American Health Foundation



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OFFICE OF THE PRESIDENT

Congress of the United States
House of Representatives
Committee on Government Operations
Subcommittee on Human Resources and Intergovernmental Relations
Edolphus Towns, Chairman

Hearing: "America's Diet: Are We Losing the War Against Cancer?"
Date: September 13, 1993

Testimony by Ernst L. Wynder, M.D.
President and Medical Director
American Health Foundation
320 East 43 Street
New York NY 10017

There are compelling reasons to focus more attention on nutrition as a cause of major morbidity and mortality, and hence, as a major contribution to our health care costs. The evidence, based on epidemiological and laboratory data, makes it also clear that nutrition plays an important role as causative factors, and therefore, in the prevention of a variety of cancers. This conclusion has been well summarized in the Surgeon General's Report on Nutrition and Health and by the National Academy of Sciences. These reports, as well as the well established evidence that nutrition significantly impacts on cardiovascular diseases and on other major disorders such as adult-onset diabetes and arthritis, requires our immediate attention.

It is no longer nutritional deficiencies that play an important role in disease etiology, although this continues to be true for some segments of our society. Today, it is largely nutritional excesses, leading to metabolic overload, that present the main health problem. Metabolic overload can be viewed in terms of excessive calories, which certainly represents a problem, or it can be caused by specific types of food, high in intrinsic calories, such as dietary fats. Our research indicates that fat is the primary culprit. There is substantial evidence that saturated fats are the principal causes of atherosclerosis and heart diseases. Recent studies have revealed that unsaturated fatty acids particularly omega-6 fatty acids, frequently used oils, promote certain high-incidence cancers. Conversely, omega-3 fatty acids, as found in fish, tend to be inhibitory. This inhibitory activity as well as the possible protective factors from antioxidants, found in vegetables and fruits, deserve special attention. Additionally, inhibition is suggested for soluble fibers in respect to cardiovascular disease, and insoluble fibers in terms of malignancies such as in the colon and breast, appear to have protective capacities but need further investigation.

Let me cite two specifics in respect to nutrition and cancer that are receiving the particular attention of research scientists at our Institute. On the basis of global epidemiology (incidence) and extensive laboratory studies, consistent with our understanding of how nutrition can affect estrogens and the role of free fatty acids in the development of breast cancer, we conclude that diet plays a dominant role in the promotion and progression of breast cancer. The epidemiological evidence, showing the marked differences in the incidence and mortality of breast cancer between the United States and Japan, is particularly illuminating and should lead to broad collaborative studies, such as those we have recently initiated with colleagues in Nagoya, to document further the key role of the amounts and types of fat in breast, prostate, and also colon cancer.

One key question we have asked is whether dietary modification can affect survival of postmenopausal breast cancer patients undergoing standard therapy. I am pleased that the National Cancer Institute has approved funding for a randomized outcome trial of 2,000 perimenopausal and postmenopausal patients with stage I and II breast cancer. In this trial, one group will be placed on a 15% low-fat diet and the other group maintained on their regular, usually higher fat diet. Endpoints will be recurrence of breast cancer and survival.

For additional practical management recommendations to implement effective research programs in nutrition and cancer within the oncological community and the National Cancer Institute, I would like to propose the following three measures.

1) Establishment of a Study Section for Cancer Prevention and Control. Members of this study section would include those experienced in nutritional research as it relates to cancer prevention and control as well as be recognized experts in the overall area of prevention and control. The establishment of this study section would guarantee that proposals for cancer prevention and control programs are judiciously evaluated and rated.

2) Make available additional funding to the National Institutes of Health (NIH) and the National Cancer Institute for contract-supported research. This would enable the leadership of the National Cancer Institute and their expert advisory panels to support high-quality research activities that may be of a higher risk and perhaps higher societal benefits but less likely undertaken and funded through the usual principal-investigator-initiated RO-1 grant application. Some nutrition-related studies, important from a practical perspective, typically fall in this category.

3) Establish several NIH research centers that would specialize in nutrition-related cancer studies. This would provide the "critical mass" necessary to undertake successfully programs in

multidisciplinary nutritional basic research and applied research and nutrition education. With centers operating in various parts of the country, significant impetus would be given to further explore the relationship of nutrition to the initiation, promotion, and progression of various human diseases including cancer.

An important issue is how to define an optimal diet for our contemporary, sedentary population that will ensure youthful longevity in conjunction with appropriate, regular physical exercise. Such a diet is more likely to contain 25%, or less, fat calories rather than the 30% now suggested by some agencies. At the same time, we suggest a total daily fiber intake of about 25 grams, made up largely of bran cereals, fruits, and vegetables. The caloric requirements, the types of fat, and the fibers that constitute an optimal diet deserves special attention. The time has come to make a public health decision about lowering dietary fat intake and increasing fiber. Such a change would have broad-based, positive health effects rather quickly, and lower the rates of nutrition-linked cancers.

We invite the U.S. Department of Agriculture and the American farmers and food industry to produce for the sedentary American population the types of foods that are most commensurate with healthful, long-term living. The public should be educated accordingly. The FDA and FTC and the media can play a major role in educating the public about optimal nutrition by means of effective labeling and educational materials.

Nutritional metabolic overload, together with excessive lifestyle variables such as tobacco smoking and alcohol abuse, are major causes of excessive morbidity and mortality in our nation. If we are going to reduce health care costs, primary prevention of major diseases, through optimal nutrition, will carry the day. Prevention is the definitive solution to major disease problems; research support is cost-effective. Healthy people do not need expensive medical care.

Of utmost importance with respect to the foregoing is education of our children. To make health education effective and lasting, the American Health Foundation has developed programs for comprehensive school health education. Rather than teaching children one good health habit at a time, we are convinced that it is most cost effective to teach them about all health related behavior at the same time. Our "Know Your Body" program, a comprehensive school health education curriculum for grades K-6 has already shown that various health behaviors tend to run in tandem. A fundamental tenet of this program is to motivate children to make healthy lifestyle choices by convincing them that each of us is responsible for our health. In this sense, good nutritional habits are among the earliest health lessons children can be taught and to which they respond. The fact that obesity and hyperlipidemia (in which blood cholesterol levels are higher than is optimal) is

increasingly prevalent among our nation's children proves that adequate teaching is not occurring. The best way and time to affect these and other adverse risk factors in children is to teach them early, first at home, in preschool, and then, where all children can be reached, at school. Comprehensive school health education with nutrition as a key component must become a mandatory component of the school curriculum in every state and every school in this nation. Only by so doing, can our children enjoy a future free from avoidable chronic diseases, including many types of cancer.

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Mr. TOWNS. Dr. Freeman.

**STATEMENT OF HAROLD FREEMAN, M.D., DIRECTOR OF
SURGERY, HARLEM HOSPITAL CENTER**

Dr. FREEMAN. I thank you, Congressman Towns, and thank you for the good work you do in New York City, where I am from, too.

Mr. TOWNS. Thank you.

Dr. FREEMAN. We refer to the war against cancer, and I think it is important to understand historically that that war was declared in 1971, December, by President Nixon. And at that time, he indicated that he would bring the power of his Executive Office, the Congress, and his cabinet, to fight this war.

The question that we are entertaining here today from the line of questioning from Congressman Sanders and yourself is whether we have fought this war properly, particularly with respect to diet, but in a general way as well.

I think that perhaps it is a little unfair to believe that one agency could win this war, as we constantly refer to the NCI as having the burden of winning the war against cancer. It is not realistic. There is no way that you can win a war against cancer in any respect from offices situated in one city. The war has to be fought in the neighborhoods of America where people live and die. And that is the essence of the problem.

Now, we have to separate the research part of the war, which we have done reasonably well I think over the last 20 or so years with the reinfusion of money up to \$2 billion into the NCI, with where we have not fought the war well in my opinion—in the neighborhoods of America where people live and too often die.

I happen to be in a neighborhood of America which is very special. I have worked in Harlem as a surgeon for a quarter of a century, so I understand poverty and being black very well. I was a coauthor of a paper which you may have heard of, Congressman, in which we showed that a black male growing up in Harlem has less of a chance of reaching age 65 than a male growing up in the Third World country of Bangladesh.

This is unacceptable, because this means that Harlem and the other Harlems of America are Third World communities situated in the so-called First World. Part of the cause of the problems that they suffer is the prevalence of a lifestyle that leads to death. Certainly diet causing chronic disease and death is a major part of the problem in the Harlems of America, where heart disease is the No. 1 cause of death; cancer, No. 2, and that order may reverse by the year 2000.

So the question then, is how do we really fight this war especially in areas of the country that have a very high mortality, compared to the rest of America?

Well, I think that the first thing we have to realize, Congressman, is that we cannot separate the diet people have from the other circumstances in which they live. People who are uneducated in general are going to be uneducated with respect to diet. Such people are also living in poorer housing conditions. They tend to have an extraordinarily high unemployment rate and they have lack of access to health care. Many such people become hopeless in outlook. Such a person may question why he should be concerned

about eating vegetables when he has little money for food and is preoccupied with adequate clothing and shelter. So we have to address the problem of diet in the context of populations with substandard living conditions.

It is estimated that approximately 35 percent of cancers are related to diet. This is an extraordinary finding because it means that about 1,000 Americans a day develop cancer related to diet. If this is true, we should be targeting resources related to promoting a healthy diet in Americans as we do toward the prevention of tobacco addiction and use the tobacco issue and other issues that cause a lot of death.

With respect to minorities, in particular, first of all, there is not much information that I can glean to distinguish what happens to various parts of the population ethnically and culturally with respect to diet, disease and death. And I would recommend that we need to correct that by studying the population not as a general American population, but with respect to cultural differences and educational differences and income differences which create different environments.

But with respect to black Americans, we do know that black Americans have the highest incidence of cancer in America. And in particular with respect to diet, they have the highest incidences of cancers related to diet. Esophagus, stomach, pancreas, and prostate cancer seem to be related to diet.

Black American men have the highest incidences of prostate cancer, not only in America but in the world as a whole. So perhaps certain minority people, probably more related to poverty than race itself, have higher cancer rates due to diet.

My time is running very fast, but I do want to skip over a couple of pages to certain conclusions that I would like to make. There is no doubt, Congressman, that many thousands of cancers could be prevented each year if most American people had prudent dietary habits, based on the current guidelines that we all know.

What is happening, though, is we have guidelines—that the Agriculture Department has come up in a very clear way through its committees—that are not being transmitted and translated and communicated to all parts of America in a way that people can understand. Certainly not in Harlem.

If you were interested in saving people in Harlem related to diet, you would first have to almost become an anthropologist and go into Harlem and find out how people communicate with each other. It will be different from the way people communicate in Appalachia. We need to develop a better cultural understanding of all our people. That is one thing.

Another point is that I think dietary problems in America are mainly driven by economic and cultural differences. And so we need to understand what it means to be poor and black. We need to understand what it means to be poor and Mexican and poor and Appalachian, and we need to direct our education along those lines.

And, finally, let me say, returning to the first point about the theme of this conference, I think that we are fighting a war against cancer and today we are talking about diet, but fundamentally we need to have the right concept about this war. We need to understand that you cannot fight a war in America from one city, that

we have to translate and communicate whatever the research findings are to all people in languages that they can understand.

And particularly I think we need, with respect to the government, to involve the Department of Agriculture, the Department of Education, Health and Human Services, along with the Congress and executive office, to move this war along the right lines. And if we fail to understand that and continually reflect back on the NCI alone as the main fighter of this war, there is no way that we can win this war.

Thank you very much.

Mr. TOWNS. Thank you very much, Dr. Freeman.

[The prepared statement of Dr. Freeman follows:]

TESTIMONY BY DR. HAROLD P. FREEMAN TO THE
CONGRESSIONAL COMMITTEE ON GOVERNMENT OPERATIONS HUMAN RESOURCES
AND INTERGOVERNMENTAL RELATIONS SUBCOMMITTEE HEARING ON:

AMERICA'S DIET: ARE WE LOSING THE WAR AGAINST CANCER?

Monday, September 13, 1993

11:00 a.m.

2247 Rayburn House Office Building

Introduction

In December of 1971 President Nixon declared a war against cancer. In declaring the war he indicated that he would bring to bear the power of the executive office, the cabinet and the congress against the dreaded disease cancer. As a result of this declaration the research effort in the country has received a dramatic increase in funding to the current National Cancer Institute funding level of 2 billion dollars a year. The question arises as to whether or not we have waged the war properly over the last 20 years since the war was declared.

Today we are specifically considering the American diet and how we have fared in promoting the adaptation of a disease preventing diet in American people.

I would first like to note that I believe it is a misconception to think that the war against cancer in America can be successfully fought by any one agency such as the National Cancer Institute or from any one location or city. In my opinion in order to be successful the war must be ultimately waged in the neighborhoods and trenches of America, where people live and too often die.

Secondly I will underscore the point that it is not reasonable to separate a disease promoting diet in a population from the human circumstances in which the people live. For example poor dietary habits must be at times understood in the context of poor housing conditions, unemployment, low educational level, and poor access to health care which are conditions that exist in many impoverished communities in America.

I was one of the authors in a report published in 1991 in the New England Journal of Medicine; 'Excess Mortality in Harlem'. We concluded that a black male growing up in Harlem has less of a chance of reaching age 65 than a male growing up in the third world country of Bangladesh. This means that Harlem and other American communities where there is intense poverty, are third world communities in the first world. Certainly diet is a critical determinant of disease and death in the Harlems of America where heart disease and cancer (diet related diseases) are respectively the number one and two causes of death.

General Considerations

One million Americans develop cancer each year and about one half million die of the disease.

Most cancers are believed to be caused by environmental factors and therefore most cancers are potentially preventable.

It is estimated that about one third of cancers are due to dietary factors. If this is true then nearly one thousand cancers related to diet are diagnosed in America each day.

Accordingly one of the most effective ways to prevent cancer would be to dramatically increase the number of Americans who adhere to a prudent diet.

Dietary guidelines for Americans have been established by the U.S. government by the Department of Agriculture.'

Nearly all agree that a low fat high fiber diet rich in certain antioxidants reduces cancer risk.

Some Americans have a higher cancer incidence and mortality. For example Black Americans have the highest overall incidence of cancer. Diet related cancers which are more frequent in Blacks include cancers of the esophagus, stomach, pancreas, and prostate. Blacks and American Indians have the lowest cancer survival.

A National Cancer Institute study published in 1991 demonstrated that cancer incidence was higher in low education, low income groups regardless of race.'

The extent to which the disparities in cancer incidence in black and white Americans is due to diet is not well determined. However the available data shows that black Americans have a higher prevalence of high fat, low fiber, low fruit and vegetables diet compared to whites. On the other hand some studies indicate a higher vitamin A intake in blacks.

It is possible that the significance of diet and nutrition relative to the health status of minority and poor Americans may be greater than for whites because of a higher prevalence of risk factors.

However our ability to clarify these findings is currently limited because relatively few nutritional and epidemiologic studies have compared racial and ethnic groups.

Based on the above discussion I make the following recommendations:

-Since dietary practices are a major preventable cause of about one-third of cancers which occur in America there is an urgent need at the federal, state and local levels to aggressively educate the American people about the importance of following the dietary guidelines which have been

established by the Department of Agriculture.

-Since important data is lacking it is necessary through nutritional epidemiological studies to obtain appropriate data on dietary habits and related disease patterns for all Americans according to economic status, culture, ethnicity and geography.

-Geographical and cultural areas of extreme excess morbidity and mortality related to disease promoting diet should be delineated.

-Such areas should be targeted with special federal, state, and local resources related to promoting a healthy diet.

-The dietary guidelines which have been developed by the Department of Agriculture must be translated into language that can be readily understood by Americans of all cultures and educational levels.

-It is especially important to provide targeted dietary education to the young through school programs kindergarten through 12th grade.

-The National Cancer Institute should substantially augment the amount of funding related to cancer control research as it relates to understanding and modifying the dietary practices of poorly educated and culturally distinct American populations.

-At the federal level a uniform plan related to dietary intervention should be derived across bureaucratic boundaries. Participants in deriving the plan should include the departments of Health and Human Services, Education, Housing and Urban Development and Agriculture. Funding of such a nationwide intervention will require congressional support. The ultimate goal of such a plan should be to focus educational resources in the neighborhoods of America.

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Mr. TOWNS. Dr. Jacobson.

STATEMENT OF MICHAEL JACOBSON, Ph.D., EXECUTIVE DIRECTOR, CENTER FOR SCIENCE IN THE PUBLIC INTEREST

Dr. JACOBSON. Thank you very much, Mr. Chairman.

Let me begin by applauding this committee for holding this hearing. This is such an extraordinarily important topic that has gotten precious little attention from Congress. And I particularly want to applaud Congressman Sanders for really spearheading this inquiry into this area.

I am the executive director of the Center for Science in the Public Interest. It is an organization that is supported by 600,000 Americans, including many in Vermont, many in New York City, and we have worked on diet and health issues for some 20 years.

According to the Surgeon General's report on nutrition and health, diet is the leading contributor to cancer deaths, resulting in approximately 175,000 deaths each year. The typical American diet increases the risk of colon, rectal, breast, prostate, and other cancers. Minorities suffer extra high rates, as Dr. Freeman indicated; African Americans suffer more than twice the rate of prostate cancer as the general population.

As you have heard, the diet that promotes cancer is one high in fat, especially animal fat, and low in fruits, vegetables, and whole grains. And Americans are certainly eating a lot of fat. I brought with me a tube containing the amount of fat in a double whopper with cheese, a medium order of fries, and a strawberry shake from Burger King, which is a very typical meal.

Mr. SANDERS. I haven't seen that on their commercial. I must have missed something.

Dr. JACOBSON. Ninety-five grams of fat. And this is the maximum amount of fat that a man should have. This is the maximum amount a woman should have, and they are getting more than that with this one very popular meal.

Two weeks ago, CSPI also reported on the fat content of Chinese food in the United States. And I think we shocked the public by disclosing the extraordinarily high fat content of many Chinese meals. In response, the Chinese restaurateurs said that food is for Americans, we wouldn't eat it ourselves.

It is high time that the Federal Government mobilized its nutritional weapons to fight cancer. Government feeding programs provide a tremendous low-cost opportunity to reduce the cancer risk of millions of Americans. The government feeds 50—60 million Americans each year through food assistance programs and meals, at government office buildings, prisons, food stamp programs and so on.

The government has developed dietary guidelines for Americans to help reduce the risk of chronic diseases. Weak as those guidelines are, unfortunately, Uncle Sam is not following his own advice. For instance, in 1992, a USDA study documented that federally supported school lunches, which are eaten by 24 million kids each day, are loaded with fat and salt. The average meal gets one-fourth more total fat and half more saturated fat than the government recommends.

USDA should set nutritional standards for school meals that would specify limits for fat, saturated fat, cholesterol, and sodium, and also specify minimums for fiber.

The food stamp program reaches 27 million Americans, but less than two one-hundredth of 1 percent of its \$20 billion budget goes toward nutrition education. We urge that major nutrition education campaigns for food stamp recipients be funded by a one-fourth of 1 percent discount on the amount that food retailers receive when they cash in food stamps. That discount could be phased in with the electronic benefits transfer system that USDA is developing that will save retailers millions of dollars a year because they won't have to sort and count and bundle food stamps.

In 1992, Congress made a significant move toward improving the health of 3.5 million elderly Americans by requiring the Congregate and Home Delivered Meals, Meals on Wheels, comply with dietary guidelines for Americans. However, HHS has not even started drafting the regulations. So many seniors are still consuming meals much too high in fat, cholesterol, and sodium.

Furthermore, every day Armed Forces' mess halls and Federal prisons serve 1.5 million meals. Many of them are high in fat, cholesterol, and sodium. Studies at Fort Riley and Fort Lewis found that soldiers obtained more than 37 percent of their calories from fat. Prisons actually do a little bit better, but the prison system is firing their head dietitian in a budget crunch. Federal food and feeding programs must be transformed into true nutrition programs.

Congress should call on either HHS or USDA to help all Federal agencies improve their food programs. Each agency should be required to build in a nutrition component, should serve meals that meet nutritional guidelines, and establish a monitoring system to ensure that its programs comply with those guidelines.

We talked a little earlier about the 5-A-Day Program. It is excellent, as far as it goes. You heard a figure of \$4 million that NCI is spending on it. Ninety percent of that is actually for research. USDA spends only about \$400,000 actually promoting 5-A-Day. And the industry spends \$15 million to \$18 million. Kellogg's advertising budget just for Pop Tarts was \$28 million in a recent year.

Congress needs to give the Department of Health and Human Services adequate funds to launch a bold educational campaign. That campaign should include an annual national healthy diet day, capped with a healthy meal at the White House. It should include—this campaign—national TV specials and pilot testing of statewide healthy eating campaigns, beginning with small States where it might be easier, such as Vermont.

USDA's Nutrition Research and Education Service has a mission to improve the diet of all Americans but a budget of only \$1.2 million a year. You can't do anything with that kind of a budget. Congress needs to give NRES a much bigger budget.

In sum, we urge the members of this subcommittee to consider the various ways in which the Federal Government could reduce cancer rates through better nutrition and then develop legislation and appropriations to accomplish that important goal.

Thank you very much.

Mr. TOWNS. Thank you.

[The prepared statement of Dr. Jacobson follows:]

HEARING ON DIET AND CANCER

Testimony of

**Michael F. Jacobson, Ph.D.
Executive Director
Center for Science in the Public Interest
Washington, D.C.**

Before The

**Subcommittee on Human Resources and Intergovernmental Relations
Committee on Government Operations
U.S. House of Representatives**

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**September 13, 1993
Washington, DC**

Thank you very much for the opportunity to testify this morning on the important role that diet should be playing in our national efforts to reduce cancer risk. A truckload of studies demonstrates the link between diet and cancer -- and yet, the government does little to get that information to the American public. The National Cancer Institute, Centers for Disease Control, and the Surgeon General actively publicize that cigarettes cause lung cancer. In contrast, little is done to inform Americans about diet's role, and diet may cause even more cancer deaths than smoking.

According to the 1988 Surgeon General's Report on Nutrition and Health, diet is the leading contributor to cancer deaths -- resulting in approximately 175,000 deaths each year, three times more than the number of Americans killed in the entire Vietnam War. The typical American diet appears to increase the risk of colon, rectal, breast, prostate, endometrial, lung, bladder, oral, stomach, and cervical cancers. Minorities suffer extra high rates of certain cancers; in particular, African Americans suffer more than twice the rate of prostate cancer as the general population. The diet that promotes cancer is one high in fat -- especially animal fat -- and low in fruits, vegetables, and whole grains. Pesticide contaminants and several food additives (BHA, BHT, nitrite, saccharin) are the icing on the cake, so to speak.

It's time that the federal government mobilized its nutritional weapons to fight the war against cancer. Measures to improve the American diet could prevent hundreds of thousands of cancers -- saving precious human and economic resources.

I. Uncle Sam's Kitchen

In these days of tight budgets, we are all searching for low-cost solutions to our nation's ills. One such remedy lies in Uncle Sam's own kitchen. Government feeding programs provide a tremendous opportunity to reduce the cancer risk of millions of Americans without additional government expenditures.

The federal government feeds over 60 million Americans each year through food assistance programs, such as the school lunch program, WIC, elderly feeding programs, food stamps, and commodities provided to native Americans, as well as meals served in military installations, government office buildings, federal prisons, and VA hospitals.

USDA and HHS have developed Dietary Guidelines to instruct Americans how to eat to reduce their risk of cancer and other chronic diseases. Unfortunately, the government is not following its own advice. Instead of using the feeding programs to promote health, most federally-provided foods are prescriptions for disease.

A. USDA Feeding Programs

Preventing cancer and other chronic diseases must begin in childhood. Kids should be fed a diet that directly reduces their risk and that teaches healthy eating habits to last a lifetime. However, a recent USDA survey indicated that our kids are fed school lunches that are full of fat and salt. The average meal gets 38% of calories from fat – compared to the recommended 30% and an ideal of 20% – and 50% more than the recommended levels of saturated fat.

USDA could promote children's health by setting nutritional standards for school lunches and breakfasts. USDA should set quantitative limits for fat, saturated fat, cholesterol, fiber, and sodium. To ensure that so-called "competitive" foods do not undermine the National School Lunch Program, the Department should also require foods sold at snack bars, vending machines, restaurants, and school stores -- from the beginning to the end of the standard school day -- to meet those standards. To help the schools serve more nutritious meals, USDA should require vendors to provide nutrition information on all products sold to schools.

Ironically, federally subsidized food commodities are a major impediment to offering wholesome school lunches. In 1992, \$675 million in commodities was donated to school lunch and breakfast programs. Those commodities -- in the form of processed cheese, frozen or canned meats, canned fruits and vegetables, oils, butter, flour, and other staples -- represent a fifth of each school meal.

Many commodities are full of fat. We have calculated that half the calories of all commodities come from fat. For example, even among vegetable commodities, a fatty potato product similar to Tater-Tots tops donations. That bite-sized product gets 42% of its calories from fat, whereas a baked potato has less than 1% calories from fat. To add insult to injury, USDA recommends they be served "with melted cheese or gravy." USDA should not be pushing fatty, salty foods off on our school children. They should revise their food purchasing practices and offer schools more healthful commodities.

Fatty commodities are also a problem for Native American communities. Last year, more than 40,000 Native Americans households received commodities on a monthly

basis and, according to the U.S. General Accounting Office, over half of those households included at least one adult with nutrition-related health problems.

To teach kids healthy eating habits and improve the acceptability of healthier meals, funding for the Nutrition Education and Training Program (NET) should be restored to its 1980 level of \$30 million (adjusted for inflation). Although the NET program is authorized at \$25 million, less than half the funds have been appropriated.

USDA currently reaches 27 million Americans through the food stamp program. That program provides an opportunity to teach more than one-tenth of the U.S. population how to eat their way to better health and fewer cancers. Unfortunately, it's largely a missed opportunity. Less than two one-hundredths of one percent (0.02%) of the food stamp budget goes toward nutrition education.

Funding for nutrition education for food stamp recipients need not mean higher taxes. The money should come from a 0.25% discount on the amount that food retailers receive when they cash in food stamps. That discount could be phased in with the Electronic Benefits Transfer (EBT) system, which is expected to save retailers \$4 to \$9 for every \$1,000 in food stamps sales, according to a recent USDA study. Our proposal would allow grocery stores to reap half the savings from EBT and return the other half to USDA. The money would be earmarked for a special fund used to teach food stamp recipients nutritious eating habits and improved food purchasing skills. Our approach asks little from a food industry that benefits greatly from the food stamp program. After all, food stamps are a form of currency -- \$21 billion worth in 1992, and \$180 billion since 1980 -- that can only be spent in food stores.

B. HHS Feeding Programs

In 1992, Congress made a significant move toward improving the nutritional quality of one government feeding programs. An amendment was added to the Older Americans Act to require that Congregate and Home Delivered meals comply with the "Dietary Guidelines for Americans". However, the 3.5 million elderly Americans served by those programs have yet to benefit. Despite the approaching deadline, a nutrition advisory panel has not been convened, nor have the regulations been written. In the interim, many seniors are still consuming meals high in fat, cholesterol, and sodium.

Eighty-five percent of older Americans have chronic diseases whose symptoms could be eased by better nutrition, according to the U.S. Senate Committee on Education and Labor. Given the importance of diet to the health and well-being of the elderly and the large number of people who will benefit from the new law, the Administration on Aging should expedite the writing of the regulations. In addition, the regulations should go beyond the "Dietary Guidelines for Americans," which sets numerical values only for fat and saturated fat. The Administration on Aging should use other federal diet recommendations -- set by the Food and Drug Administration, the National Academy of Sciences, and others -- to set quantitative limits for sodium, fiber and cholesterol.

C. Other Federal Feeding Programs

It's not just HHS and USDA that can directly improve the health and reduce the cancer risk of Americans. Every day the Army's "mess halls" feed 150,000 soldiers meals

that are too high in total calories, fat, saturated fat, cholesterol, and sodium. For example, at Fort Riley and Fort Lewis, soldiers consumed more than 37% of their calories from fat. No one knows about the nutritional quality of the meals served to 150,000 Navy and 84,000 Air Force personnel in their dining facilities, because neither service does any overall nutrition evaluation nor keeps any central records.

The Department of Justice does only a little better. Although the meals at federal prisons gradually have grown healthier over the last 4 years, 76,000 inmates are still served meals too high in fat, cholesterol, and sodium. Moreover, the improvements are likely over, because a 1992 budget cut eliminated the position of the Chief Dietitian in the Bureau of Prisons.

D. Recommendations

The federal government is missing an opportunity to improve the health and reduce the cancer risk of millions of Americans. To seize that opportunity, federal food and feeding programs must be transformed into true nutrition programs. Those who argue that it's impossible should talk to Ilo Teft, the supervising dietitian at a Congregate and Home Delivered Meals Program in Nebraska. She slashed fat, saturated fat, cholesterol, and sodium levels by 50%, while increasing fiber, for her senior-citizen clients. In Minnesota, the Department of Education modified school lunch recipes to meet the dietary guidelines, while still satisfying students' taste buds. Both programs increased the nutritional quality without increasing the costs.

Congress should select one agency, either HHS or USDA, to help all agencies improve their food programs. Each agency should be required to:

- * serve meals that meet guidelines for fat, saturated fat, cholesterol, and sodium and are rich in fruits, vegetables and whole grains;
- * establish a monitoring system to ensure that its programs comply with those nutritional guidelines and periodically provide a report to Congress.

We also hope that the USDA, FDA, and EPA succeed in persuading farmers to use fewer pesticides and to ban the most dangerous pesticides. FDA should also limit the use of additives that may increase cancer risk.

II. Nutrition Education and Research

By serving nutritious food, the federal government could reduce the cancer risk of millions. But what about cancer prevention for those Americans not fed by Uncle Sam?

The National Cancer Institute (NCI) is largely responsible for educating the public about the relationship between diet and cancer. That responsibility is part of its mandate to develop and widely distribute the most effective methods of preventing, diagnosing and treating cancer (National Cancer Institute Act of 1937).

NCI has issued dietary recommendations to help Americans choose a diet that will reduce their cancer risk. Several brochures explain those recommendations and the food choices necessary to meet them. Those recommendations are a good start, but NCI must work much harder to get that information out to the general public. Too few Americans recognize the link between diet and cancer, fewer know how to eat to minimize their risk, and even fewer are motivated to actually improve their diets.

Although an apple a day may not keep the doctor away, 5 to 10 servings of fruits and vegetables a day may. Over 120 studies show that eating more fruits and vegetables is associated with lower cancer risk. 5-A-Day for Better Health is a public education program aimed at reducing cancer risk by encouraging Americans to eat more fruits and vegetables. 5-A-Day encourages a simple dietary change that has the potential to greatly improve the public's health. However, the program's approach may not be aggressive enough to reeducate a public bombarded by ads for fatty foods and few vegetables. NCI plans to spend a mere \$400,000 in 1993 promoting 5-A-Day, with an additional \$15 to \$18 million spent by the produce and supermarket industries. Those millions are dwarfed by the billions spent promoting the sale of processed foods. For example, McDonald's 1990 advertising budget was \$764 million. Kellogg spends \$28 million a year just to promote Pop Tarts -- more than is spent on all of 5-A-Day.

NIH as a whole devotes few resources to educating the public about the relationship between diet and cancer. At all of NIH, only \$4.9 million was spent for public nutrition education campaigns in 1991. That paid not only for cancer programs, but also for heart disease, diabetes, high blood pressure, etc. An additional \$4.1 million went toward nutrition education of health professionals. Although a bit more was spent researching strategies for public nutrition education, it amounted to only \$11 million -- about 0.1% of the total NIH budget. NIH should put far more resources into studies of how to change diets -- and then should apply that knowledge in major educational efforts.

Congress should give NCI (in conjunction with other institutes at NIH) funds to launch a bold educational campaign to help Americans eat their way to lower risk of cancer and other diseases. The first step should emphasize the role that diet plays in cancer prevention and progression. The second step would teach Americans how to eat a diet with less fat and more whole grains, fruits and vegetables. That campaign should involve such elements as:

- an annual national healthy-diet day (similar to the American Cancer Society's annual non-smoking day). The White House should demonstrate its concern by hosting a healthy dinner;
- national TV specials;
- pilot testing of statewide healthy-eating campaigns, beginning with small states like Vermont; and
- videos, PSAs, paid advertising, brochures, and posters.

Cancer-prevention efforts should include a revision of the federal government's dietary recommendations. Currently, the advice from USDA and HHS ("Dietary Guidelines for Americans": less than 30% calories from fat, 10% calories from saturated fat, etc.) represents a compromise between health experts and industries with vested interests. Instead, the government should recommend the best possible diet to the American public. People need not adhere to such a diet, but at least they should be told what it is. For example, an ideal diet should probably contain no more than 20% of its calories from total fat and 5% of its calories from saturated fat, rather than the 30% and 10%, respectively, that USDA and HHS advise.

In addition to public education, we need a strong program of basic research. There is still much we don't understand about the role diet plays in cancer prevention,

progression, and treatment. NIH is the lead agency in the area of nutrition research. However, NIH spent only \$311 million on nutrition in 1991. The low priority that NIH places on nutrition research seems out of line with the central role that nutrition plays in health and disease. Despite the fact that diet is the second leading contributor to premature death, only 4% of the total NIH budget supports nutrition work. NCI spent \$74.8 million dollars on nutrition research and training in 1991, a mere 4.4% of its budget.

NCI needs to devote more of its resources to research on the role of nutrition in the development and progression of cancer -- at amounts in line with the role diet plays. The Bionutrition Initiative may help to rectify some of that apparent disparity. We are pleased that the Initiative is an area emphasized in the 1994 budget and hope that Congress will continue that support.

USDA's Nutrition Research and Education Service has a mission to improve the diet of all Americans, but a budget of only \$1.2 million for nutrition education for 1993. If USDA is to remain the lead agency for nutrition education, a role we question, it should be funded at a level more in line with the challenges before it. USDA should update its nutrition information, which is sorely out-of-date. It should also produce not only posters and brochures, but also videos, radio and TV announcements, and other electronic media. The materials should include some addressed specifically to at-risk populations. USDA should also develop materials for populations with specific nutritional concerns, for example, information for vegetarians and for those wishing to eat a very low-fat diet.

Conclusion

The federal government has a tremendous opportunity to reduce the burden of cancer in the U.S. by helping Americans improve their diets. USDA and HHS need to do a much better job of getting the word out that our diet has a substantial influence over our risk of getting cancer. In addition, the government must use its various food and feeding programs to promote health and prevent cancer. In these days of scarce health-care dollars, we can no longer afford to ignore the savings that a good diet has to offer.

Mr. TOWNS. Let me thank all the members of the panel for your excellent testimony, and acknowledge your outstanding work in this field over the years.

Dr. Berman, I think you said that one-third of NCI's budget going toward prevention is stretching the limit on what NCI really devotes toward prevention. Am I quoting you correctly?

Dr. FUGH-BERMAN. Right. What NCI is calling prevention is not primary prevention, which is really decreasing people's exposure to carcinogens. The \$60 million tamoxifen trial comes under prevention. And a lot of also what is called "nutrition research" is actually nutrition on the molecular level of enzymes, for instance, and although that is sort of important research, it is really more important that we look at the big picture: What people are eating and how it affects them.

Mr. TOWNS. All right, thank you.

Let me ask each of you, keeping in mind what Dr. Berman just said and Dr. Freeman's testimony, that the war cannot be won just from fighting it from Washington. My question to all of you is how much of NCI's budget and resources should be devoted to primary cancer prevention in order to significantly reduce the incidence of cancer in this country? What would you suggest?

Dr. FUGH-BERMAN. Well, if I had a wish list, it would be 75 or 80 percent. But I wanted to respond to something that Dr. Greenwald said about needing to involve the major biomedical centers. Well, drug companies are not going to be in the forefront of funding nonpatentable items like broccoli, and it is up to the Federal Government, NIH, and NCI to take the leadership on funding studies on what people eat and what they should eat. Where funding goes, interest follows in terms of researchers.

Mr. TOWNS. Right. Dr. Wynder.

Dr. WYNDER. Well, I don't want to put a percentage on it, but it is clear that all behavior interrelates, and it is not just a job for the NCI, it is also a job for the Heart Institute, a job for the CDC. We need to combine all of these activities. But in addition, as Dr. Freeman pointed out, it is very difficult to educate anybody if they are hungry, if they don't have a job, if they don't have a home. The data that recently came from the Department of Education show how many functionally illiterate people we have in this country. These are not the kind of people who worry about whether they should eat an apple or a hamburger. If they are hungry, they will get the cheapest food they think they can get. So it is a much broader area than just saying what can the NCI do in this particular area.

And at this time as Congress and the Nation look at health reform, we ought to see whether we have a much better means of primary prevention than we could get through pure research, and I indicated the emphasis that I placed on early school health education.

Mr. TOWNS. I don't want to put you on the spot, but let me—

Dr. WYNDER. Why don't you try.

Mr. TOWNS. Let me ask you this way, because I respect all the work you are doing. Is 15 percent enough?

Dr. WYNDER. Well, as Dr. Berman said, the—I don't like the 15 percent approach. And I think what we need to do is better evalu-

ate what works and what doesn't work. And one problem we always had in particular in health promotion, is that we do not effectively evaluate our particular approach to something. So I would not want to put a percent on it.

As you know, I also come from New York and the American Health Foundation is a designated cancer prevention center. Our entire activity of some \$16 million relates to cancer prevention. But with respect to what the NCI should put into this—perhaps Dr. Freeman who is a better politician than I am and who has been chairman of the President's cancer panel, is in a better position to comment on this.

Mr. TOWNS. And he comes from New York, too.

Dr. FREEMAN. And I don't mind making enemies, either. But I think, as I said, Congressman, it is somewhat of a misconception in my whole thinking, to think of prevention actually being applied from the National Cancer Institute, which is set up as a research organization. It is a research—but we don't need any more research to say that fat, high fat is bad, as in this jar. We don't need any more research to convince us that we need to have high fiber. The NCI has done its part in that respect.

The question is how do you translate those findings to the American public and is that the proper role of the National Cancer Institute? I suspect that the NCI is not the most powerful organization to translate findings to the American public. Perhaps the Department of Education needs to look at this very carefully; how much do they need to require the schools to teach about diet, for example. In other words, I think that the whole question of blaming the National Cancer Institute for this problem is probably misconceived, and we ought to look at other parts of government and local and Federal and private areas to see how can we teach a young black 6 year old who grows up in Harlem that he should eat fruits and vegetables, and especially since his mother can't afford the fruits and vegetables. That is the problem. That is not a research problem; that is a practical human problem that we have got to face.

And people say, well, education is expensive, and it is. But one of the former presidents of Harvard put it this way, he said if you think education is expensive, consider the price of ignorance. And that is what we are dealing with now; ignorance leading to chronic disease and death, an expenditure of a lot of money on the health care system which could be saved, and that is the problem.

Mr. TOWNS. Thank you.

Dr. JACOBSON. Let me be brave and throw out a number. But first let me reiterate, I wouldn't place all this on NCI. NCI is basically a research agency, that is their motivation, that is their primary interest. There are a number of other agencies in the Federal Government that might be more appropriate. The Centers for Disease Control might be one such agency. But for an order of magnitude, I would throw out \$1 billion a year as a reasonable target for promoting better health through better nutrition. And I wouldn't segregate cancer out particularly. The same kind of diet that appears to reduce many cancers, appears to reduce the risks of diabetes, hypertension, heart disease, obesity, all of which are major problems in this country. Now, \$1 billion, even in Washing-

ton, isn't chicken feed. The easiest place to get this money would be to tax alcohol and tax tobacco.

Mr. TOWNS. Thank you very much.

Let me yield to my colleague. My time is expired. Congressman Sanders.

Mr. SANDERS. Thank you, Mr. Chairman.

You know, one of the problems, the many problems that we have in Congress, if you go to these hearings, Members spend half their life congratulating the chairman; we never talk about what a great job everybody is doing. But what I do want to sincerely say is that this panel that you and your staff has assembled is an extraordinary panel. And I want to congratulate each and every one of you not only for your testimony but for the work that you are doing in helping us make a revolution in the whole concept of disease and health care and disease prevention. And we are, I think, beginning to see some breakthroughs.

Some of you may have noticed that Mutual of Omaha is now funding the Ornish proposal for heart disease, and other insurance companies are going to follow, I am sure, which stresses not surgery, but stresses diet, exercise, and stress reduction and so forth and so on.

There are some comments, questions that I can make. Let me just start off with a simple one and throw it out to anyone who wants to respond. What I think I am hearing each of you say in your own slightly different ways is that we really need a revolution in this country in terms of disease prevention, that the models that we have been using in the past are spending extraordinary amounts in research and technology in treating people who are ill, and we all want to do that, but that we should begin to refocus our direction and start preventing disease and that we know enough to start preventing large amounts of disease. And I think, as Dr. Freeman said, you can't just isolate one factor. Somebody who is sitting hungry in a slum is not going to be concentrating on eating fresh tomatoes. There are one or two other problems on their mind.

So let me ask you and throw out the general question, give me some broad ideas as to how we go forward on this revolution; what role can Congressman Towns and I play as we develop the health care proposal? This is relevant to the health care proposal that is coming down the pike. Let me just throw it out for whomever wants to take a shot at that.

Dr. JACOBSON. Well, one of the ways, if I may say, that the health care—Clinton's health care plan seems to be proceeding along the lines of health alliances where there will be designated agencies or alliances in each State or major city. They could be mandated to sponsor health education campaigns. They will be given certain duties and that could be one of them. And they can work in collaboration with the Heart Association, Cancer Society, and other private organizations.

Mr. SANDERS. On a scale of 1 to 10, let me—just jump in when you want. You held up your test tube there, whatever it is, showing the fat in, what, a double cheeseburger and french fries? Is that—what I am hearing, is that a crisis situation? My impression is that we are extraordinarily ignorant about diet as a Nation, virtually no programming on it. Certainly not enough to compete with what the

McDonald's and Burger King commercials are about. Are we at a crisis situation? And give me some ideas and Congressman Towns some ideas as to how do we fight back.

Let me ask you the controversial question I asked in the beginning. You showed us what is in a Burger King cheeseburger. Should somebody be saying that on television in—I mean, more than saying that on television, does somebody have to start dealing with the Burger Kings and the McDonald's the way we deal with the tobacco industry?

Dr. WYNDER. We have a crisis in health care costs, which to some extent relates to these avoidable diseases from which we suffer and die. I emphasize education. My friend Harold emphasized that we need to uplift the public at large because it is difficult to think about health if you are hungry.

A recommendation I would like to make is to bring back into focus the family physician. The family physician I knew cared about me, whether I smoked, what I ate. He knew my first name, my middle name and the name of my dog. Today, we are far more impersonal. We do not have a family physician who is the gatekeeper to medical care.

We have got to bring all of this together. We need to think about how can we provide incentives to the individual? We are celebrating child health day in this city. It was first proclaimed by Calvin Coolidge in 1928, who said there should be one day in the year when we should reflect on the health of our children and if wanting, what should we do about it?

We will have here in this Congress a press conference where we will ask industry to say what can we do, what can the government do, what can schools do, what can the media do? It requires a total effort of which NCI can only be one part.

I would concur with my colleagues that you folks do a tremendous job. If we can get the right kind of constituency, we can win this battle.

Dr. FREEMAN. I would like to make a comment. I think one strategy we ought to seriously think about, and it is borne out my own personal experience, that there are some parts of America left completely out of what we are doing educationally. I believe that we have the means to define where these areas are, geographically and culturally. We know where excess mortality is occurring. Every State in America records this, but we are not doing much about it.

We ought to delineate geographic and cultural areas of excess mortality, from cancer and everything else. You will find these are the areas where people are having the diets that promote death and disease. But you have to do something very special at the Federal, State, local, and private level to correct the problem.

In other words, we need not carry on the war against cancer in the generic sense. We need to promote what I call a guerilla war against cancer, fight it in the neighborhoods, and delineate where these high death rates are occurring.

If the enemy in New York were invading across the George Washington Bridge, we would not send our forces to the Triborough Bridge to defend it. Send the resources where they are needed most. This is a strategy that will save the most lives.

Dr. FUGH-BERMAN. It is important that we talk about rational prevention and that we really think very carefully about our trend of medicalizing prevention. The tamoxifen trial is indicative of that. Doctors are often very, very poorly trained in nutrition.

My medical school actually did have a nutrition class in which we were told milk was a good source of fiber, that soybeans—which are a staple protein source for a large part of the world's population—were not a utilizable source of protein. We were given a lot of misinformation.

I think Dr. Freeman is absolutely correct that it is not only education, but also cooking classes and exercise classes, which we haven't really addressed. Prevention is absolutely the most cost effective and safest way of dealing with any diseases.

Mr. SANDERS. Mr. Chairman, could I have another minute?

Mr. TOWNS. Sure.

Mr. SANDERS. In a sense, what I am hearing you say is that we might want to approach disease prevention almost in a political way and have people go out to fight for their health. That takes us to the point Dr. Freeman made. One of the things my office is batting around, is to try to get money to community organizations themselves, grassroots people if you want to talk about AIDS. What is better than a young person going out to talk about AIDS; people in the community who know the community?

So do I hear both of you or all of you saying, we are almost looking at political organizing in terms of disease prevention? Is that what you are saying?

Dr. FREEMAN. That is absolutely right. I think it is irrational to believe you can affect individuals' lives if you don't get into their lives in a meaningful way. I think we have to respect the culture of all the peoples in America. We have to understand that—in fact, let me give you an example. When I was the president of the American Cancer Society talking about antismoking, I went to an Indian reservation in Phoenix and the chief said, "We don't believe what you are saying."

And I said, "Why?" He said, "Because tobacco is not bad for our people. We use the juice of tobacco to wash lice out of our hair. And we find some very good things about tobacco, and you say it is wrong."

I said, "Chief, what can we do to stop your people from smoking, because they are dying from it?"

He said, "Tell my people not to use tobacco for fun; that they will understand."

We need to approach people culturally and individually on these issues, and not speak to America as if we are all one kind of people. We are not.

With respect to changing the system, it is such a huge thing that has to be done here, I would make the analogy between the Titanic, which ran into an iceberg. If they rearranged the furniture on the boat, it wouldn't have averted the tragedy.

Dr. JACOBSON. If I can get back to your previous question about whether there is a crisis, it is a quiet crisis. It is not like an airplane crashing, which denotes a crisis, or a subway crash. But it is hundreds of people dying every day from diet-related cancers.

In the obituary, it doesn't say double cheeseburgers did it. It remains very quiet and more easily ignored than airplane crashes.

All these educational suggestions I think are very important. We have to build them into our system, at the grassroots level and at the national level. But we shouldn't ignore the things the Federal Government can mandate, can do immediately.

The food labeling legislation of 1990 is wonderful. Does it reach \$100 billion worth of our food that we eat from restaurants? No, it doesn't touch those foods. The Federal Government should either mandate or give States some model legislation to get information to the public about this kind of stuff.

As for school foods, it is a travesty to have McDonald's in schools. They are indoctrinating kids with the name McDonald's. The schools are giving their imprimatur to the name McDonald's. And they are giving kids lousy meals, for the most part.

The money Congress gives schools as a subsidy for the school lunch program is shameful. Adjusted for inflation, the Federal dollars have gone down 40 percent, which is why schools are turning to McDonald's saying, "Take this off our hands. We don't want to lose money on it. Forget the low-income kids. Anybody who has got enough money to buy a Big Mac can eat and we don't have to worry about it."

Schools now are required to offer whole milk. That simply doesn't make sense with concerns about saturated fat, heart disease, and cancer.

Children's television advertising, it is really an unregulated area. You turn on Saturday morning television, you will not find a single ad for fresh vegetables, fresh fruit. It is crazy.

Maybe the broadcasters cannot be forced to stop running those ads. But the Federal Government could sponsor ads on Saturday morning television. It might be a good investment in our future. The government could also have seminars for local officials on how to persuade broadcasters to serve their community. They are not. They are looking at their bank account.

The Federal Government, instead of surveying medical schools about what they are doing in nutrition, could endow a chair in nutrition in every medical school. It wouldn't be all that expensive. Doctors should know what is in food so they can give people advice.

So I think there are a lot of things that can be done, where we can get some progress much more rapidly than starting educational programs which go on forever and that compete directly with the billions of dollars that the food industry spends to encourage people to eat oftentimes a pathogenetic diet.

Dr. WYNDER. If I may make a point, I have also been concerned about the value of prevention. One of the values we all suffer from is the illusion of immortality. It is difficult to imagine death and disease can happen to us. I want a family physician who thrives on prevention and who gets economic rewards on prevention. If we want to overcome this illusion, we need to have everyone that you mentioned become involved.

We have to provide both academic and economic incentives to the health system, and we have to provide economic incentives to everybody, the media, the medical establishment to practice preven-

tive medicine. Nothing will work in this country without such economic incentives.

Mr. TOWNS. Thank you very much, Mr. Sanders.

Let me take the opportunity to say here that I agree that we need to make certain that the Department of Education, HHS and Agriculture all sit down and talk. I think that is very, very important because, let's face it, all of them have responsibilities.

I am hoping that as we begin to work on this issue, we can get them to begin to communicate more with each other. I am hoping that will happen.

In terms of feeding programs in schools, only about a fourth of the meals that children eat take place in the schools. What do we do beyond that? And beyond schools Dr. Freeman, what is the most effective way to reach the African-American adult community about modifying their diet?

Dr. FREEMAN. Well, Congressman, I think that is an excellent question. I am not sure I have the complete right answer, but I will tell you what I think about it. And I would say this about any other culture, if it were Hispanic or anything else.

First of all, we need to understand what is the current African-American diet, and what parts of it are good and what parts are bad. Soul food is not all bad. Collard greens are good for you, but probably not as good for you when you put it with fatback.

I am being very practical here, because I have thought about this. You see, the problem is that with respect to black Americans, we have a culture that has handed down something that you and I understand as soul food. I know you understand that.

Mr. TOWNS. Yes.

Dr. FREEMAN. And it tastes good, but it is not good for you because of the way that it is cooked. Unfortunately, that came out of slavery, if I can take a minute to mention that point, because I think that the slaves who prepared the food for their masters ate low on the hog and gave their masters the part of the hog that was supposed to be good. None of it was really good. But they learned to cook pig's feet and things like that.

The point of the matter is that food is not all bad. The peas and the rice and greens are good. We ought to explore that culturally and convert Sylvia's into a restaurant that can serve soul food minus the fat. We need to explore all the communities in America and change their diet.

Mr. TOWNS. Thank you very much.

Can anyone comment about how can we get these different agencies to begin to talk? Because when you start talking to each other, you run into the issue of funding, and that becomes a problem among the agencies. I think that was the point Congressman Sanders raised earlier, and also what Dr. Freeman stressed.

I believe that if we really want to combat the problem, we have to go to the community, the neighborhood, and fund neighborhood groups. Because we know based on information from the first panel that pointed out the fact that when the Japanese communities, who had lower cancer rates moved to the United States, the mortality rate changed drastically because of a change in their diet. So there is information that shows the differences by regional diet.

How do we get the agencies to begin to focus on these problem areas—to begin to fund the communities to the level they should be funded? How do we do that?

The point I am making, is that people dealing with education feel that the dollars they get should go into education. They don't want to spend too much money on anything else, ignoring the fact that if a student is not eating properly, if he or she is hungry, the student is not going to learn.

Dr. FREEMAN. I think that is a very good point. The way—let's take the Federal Government first. The way it is set up is very bureaucratic. You can be doing an excellent job in Housing and Urban Development, with respect to a certain community in America, by building up housing. But if the people are not educated, the housing is going to break down.

Somehow, in my view—and I have held this view for some time—at the government level—there has to be a system where the people from Housing and Urban Development, Education, Health and Human Services, Labor, and Agriculture are meeting together with problem-oriented meetings, directing all of their resources toward solving a given problem.

If the problem happens to be health care or diet or cancer, then rather than to promote the activity only along bureaucratic lines, which will break down ultimately both at the Federal and local level, adopt a more conceptual point of view and have people from all major agencies meet together to try to solve such problems like how can we educate young people in poor communities to adopt a proper diet. We must cross the bureaucracy to get the answers, and then provide the money across bureaucracies, for housing, employment, education, and so forth.

This is what I think conceptually has to be done, both locally and federally.

Mr. TOWNS. Thank you very much. That is the point. We need to get that point across to the various agencies, that communication must take place in order to be able to turn the problems around.

Dr. FREEMAN. May I say one more thing. I think that point is true. But finally, Congressman, it gets down to one point. Finally, individual American people have to take responsibility for their own lives. They cannot delegate their responsibility to anyone else.

Mr. TOWNS. Dr. Wynder, did you want to say something?

Dr. WYNDER. That happens to be our fundamental slogan to the children: "Nobody takes better care of you than you." But to do this, you have to have a belief in the future, because without a belief in the future, you certainly don't care much about your health today.

Mr. TOWNS. Let me thank all of you for your—

Mr. SANDERS. Mr. Chairman, if I might, just a brief question.

Mr. TOWNS. I yield to Congressman Sanders.

Mr. SANDERS. We haven't been provocative enough. Let me throw out a provocative question. We as a Nation spend \$900 billion on health care, 30 percent more than the Canadians, double each, but we are not necessarily a healthier society. Yet there are some physicians who make a whole lot of money, drug companies make a

whole lot of money, fancy new technology. It is a profitable industry.

To what degree—I think what we are all amazed about is the general ignorance that exists in our country in terms of nutrition, environmental impacts upon health and so forth and so on. Yet we are spending huge sums of money on drugs and high tech.

To what degree, to be honest, is this whole issue caused by money factors that you can make—maybe it was Dr. Wynder who made the point, you can't make a whole lot of money selling broccoli. What degree does money play in this?

Dr. FUGH-BERMAN. Preventive medicine will never be profitable for individual practitioners. The best way to put preventive medicine into effect in this country is to have a single-payer national health plan, similar to Canada's because prevention is not going to be profitable for individual practitioners. What you prevent shows up in the health of communities. It does not necessarily show up in the health of individuals. It is not always—it has to be something that is done on a large scale. And that is really difficult to do without a national health plan.

Mr. SANDERS. Do other people want to comment on that?

Dr. WYNDER. Human nature being what it is, probably will not change. We need laws in a capitalistic society. We need incentives. If the day will come when the family physician who practices preventive medicine makes the same income as a surgeon who does quadruple coronary bypasses, we will have better preventive medicine; when the day comes when the people who produce broccoli, apples, and bananas can have the same economic returns as those who make high-fat foods, we will have better foods.

Furthermore, if they now could spend the same advertising dollars on television, including what appears on Saturday mornings, our children will be better served.

Dr. FREEMAN. I don't advocate this, Congressman, but in China I understand that the physicians get paid only when the patients are well. When they get sick, they don't get paid.

I am a physician myself so I don't advocate that.

Dr. WYNDER. This was true 4,000 years ago, but even in China, unfortunately, it no longer exists and capitalism has taken over.

Mr. SANDERS. I just want to conclude.

Once again, thank you, Mr. Chairman. It has been wonderful testimony. We have all been fighting uphill. But I want to say I think we are little by little gaining a foothold in this debate. With your leadership we will continue the fight.

Mr. TOWNS. I think the question was a good one knowing we will face health care reform in a few months.

Thank you very much.

Now we move to our third panel: Susan Foerster, chief, Nutrition and Cancer Prevention Program, California Department of Health Services; and Mr. Ted Campbell, secretary-treasurer, Produce for Better Health Foundation, director of SUPERVALU Stores.

You know the rules. We will ask you to summarize your testimony to 5 minutes. Your entire statement will be included in the record, without any objection.

Let me ask you, Mr. Campbell, to begin.

**STATEMENT OF TED CAMPBELL, SECRETARY-TREASURER,
PRODUCE FOR BETTER HEALTH FOUNDATION, AND DIRECTOR,
SUPERVALU STORES**

Mr. CAMPBELL. Thank you, Mr. Chairman, members of the committee. Thank you for inviting me here today to tell you about the 5-A-Day for Better Health Program. I am delighted to be speaking to you because I represent what really happens in the food marketplace, where the rubber hits the road.

As you know, Mr. Chairman, I brought along a large fruit basket to help you and the members of the subcommittee to get one of your five today.

Mr. TOWNS. Let me thank you for helping to keep the members of this committee healthy.

Mr. CAMPBELL. We do what we can.

I am secretary-treasurer of the Produce for Better Health Foundation, cosponsor of the national 5-A-Day program with the National Cancer Institute. 5-A-Day is designed as a public/private partnership. We manage the effort jointly in promoting the benefits of five servings of fruits and vegetables daily. Our challenge is to get the word out to every American.

People of all ages, ethnic backgrounds, men and women, all need to get the message delivered to the place where they make decisions, where they buy food and make decisions on their food.

My other hat is as corporate director of produce for SUPERVALU, Inc. SUPERVALU is a company serving over 4,300 independently owned retail grocery stores in 46 States. We also own and operate 280 corporate stores and are one of the Nation's largest procurers of fresh fruits and vegetables, and a heavy supporter of 5-A-Day.

The Produce for Better Health Organization was launched in 1991 by the Produce Marketing Association and other members of the fresh fruit and vegetable industry. It has since been joined by members of the frozen, canned and dried fruit and vegetable industries. The foundation now comprises 275 retail chains, representing more than 30,000 stores in all 50 States, as well as more than 300 fruit and vegetable shippers, packers and promotional organizations.

Our activities are funded solely by voluntary contributions and grants. Unlike other agricultural commodity groups, we have no generic checkoff funds available for these efforts.

To spread the 5-A-Day message, we are using a three-pronged approach which includes a retail campaign, communications campaign, and outreach to the public health community. To influence consumer decisions at the point of purchase, retailers across the country are aggressively advertising the 5-A-Day Program. They are giving consumers free brochures, simple recipes, using in-store signage, and developing special events to get the message across.

Grocery retailers redirected more than \$7 million to promote 5-A-Day in the last 6 months of 1992. Fruit and vegetable suppliers and promotional groups gave great support through merchandising efforts and added another \$11 million last year. I brought with me some samples, including ads, point-of-sale materials. Our industry believes in 5-A-Day. We put our money where our mouth is.

Our total foundation budget this year is just over \$800,000. Therefore, we have to focus on media efforts. We use the media to reach the public. An example is the first-ever 5-A-Day week for better health, including special events involving retailer suppliers and the public health community.

The broad support we have at the State level is reflected by signed proclamations of 50 Governors endorsing the 5-A-Day message. We also formed alliances with industry. We are working with the National Football League to show how fruits and vegetables are an integral part of an athlete's diet. This is aimed specifically at men. We will reach more men more effectively through the sports pages than through the food section.

Consumers read about 5-A-Day in the newspapers and magazines; they see it on television, hear it on radio. They trust qualified experts and health authorities promoting 5-A-Day. The message is reinforced when they visit our supermarkets.

We must get people to change their behavior and start eating 5-A-Day. It will take time and resources to reach this year 2000 goal.

As to the future, we have barely scratched the surface. We are just now beginning to work with the food service industry and to educate children. We certainly hope this committee and others responsible for supervision of government agencies make sure that NCI has the funding and clarity of priorities to continue to expand its vital role in the 5-A-Day Program.

At a time when health care tops our Nation's agenda, what can be more important than preventing chronic disease before it starts? Imagine the savings that can result from agencies spreading this message? NCI's involvement brings knowledge, and attracts State health departments. Our joint model is—our joint effort is a model of public/private partnership at its best. It centers on the issue of the role of diet in disease prevention.

Everyone in this country can do it. When NCI told us they would support the partnership if industry could rally together and make a significant financial commitment to get 5-A-Day going, we did it and we continue to increase our support for this vital effort. We need to see continued governmental support for 5-A-Day to show this is truly a shared relationship.

NCI has the credibility to develop materials to reach out to special population groups and work closely with the health community and the media. Industry has the means to get the message to consumers at the point of sale. Together, we make a powerful team. Alone, neither of us can get all Americans to the 5-A-Day goal.

Thank you. I will be happy to answer questions.

Mr. TOWNS. Thank you.

[The prepared statement of Mr. Campbell follows:]

TESTIMONY OF

TED CAMPBELL, SECRETARY-TREASURER
PRODUCE FOR BETTER HEALTH FOUNDATION

before the

HUMAN RESOURCES AND INTERGOVERNMENTAL RELATIONS SUBCOMMITTEE

of the

HOUSE GOVERNMENT OPERATIONS COMMITTEE

Monday, September 13, 1993

Mr. Chairman and Members of the Committee: Thank you for inviting me to appear today on behalf of the 5 a Day Program. I am Ted Campbell, Secretary-Treasurer of the Produce for Better Health Foundation.

As you know, the Produce for Better Health Foundation and the National Cancer Institute co-sponsor the 5 a Day for Better Health program. The 5 a Day program was developed to encourage all Americans to eat at least 5 servings of fruits and vegetables every day by making them more aware of how eating fruits and vegetables can improve their health and reduce their risk of cancer, heart disease and other chronic illnesses.

BACKGROUND

The national 5 a Day program has its roots in California. The California 5 a Day Campaign was established in 1988 as a major component of a 5 year grant awarded in 1986 by the National Cancer Institute to the California Department of Health Services and the California Public Health Foundation. The purpose of the grant was to enhance the health department's ability to conduct large scale, innovative interventions to help Californians eat healthier and reduce their risk to certain cancers, heart disease and other major diet-related chronic diseases.

The current national effort is modeled after the California 5 a Day Campaign. It is designed as a public/private partnership between the health community, government agencies and the fruit and vegetable industries. Similar to the original program, the mission is to increase the consumption of fruits and vegetables to at least 5 servings every day by the year 2000.

The essential difference, however, is that there are two co-sponsors of the national program. The National Cancer Institute representing the government and health community and the Foundation representing the produce and retail industries. The two organizations jointly manage this effort bringing complimentary skills and resources to the program.

As mentioned, the California campaign was launched in August of 1988. It was the first dietary improvement campaign ever conducted in the United States to focus on fruit and vegetables.

The Produce for Better Health Foundation, a 501 (c)(3) organization, was established in 1991 as a non-profit organization by members of the fresh fruit and vegetable industry who were familiar with and/or directly involved in the California campaign. The Foundation was

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established with the specific purpose of being NCI's co-sponsor of the 5 a Day program.

To date, the Foundation is comprised of more than 275 retail food chains representing more than 30,000 retail outlets in all 50 states and more than 330 produce organizations, shippers, and packers. Originally founded by the fresh fruit and vegetable industry, Foundation members now include the frozen, canned and dried fruit and vegetable industries.

The Foundation's activities are funded solely by voluntary contributions and grants. Unlike other agricultural commodity groups, the fruit and vegetable industry is very diversified with hundreds of products, thousands of companies and no generic check off program available as a funding source.

CURRENT CHALLENGES

Given that the primary goal of the 5 a Day program is to increase consumption of fruit and vegetables, the first task of the Foundation in the short run has been to increase consumer awareness about the relationship between diet and health. Simultaneously, we have sought to inform the consumer that five servings is the recommended amount to be consumed daily.

We do this in conjunction with NCI through a three-pronged approach that includes a retail campaign, a communications campaign, and outreach to the public health and nutrition community.

To best meet the challenges facing the produce industry and accomplish the Foundation's goal, our strategic communications program for the first year is designed to implement special media events which communicate directly to the public and involves local, regional and national 5 a Day participants.

These events include the first annual 5 a Day for Better Health Week which began yesterday, September 12, and will end on Saturday, September 18. The Week will be supported by in-store retail campaigns, outreach to the media, and the implementation of special events involving retailers, the produce industry and the public health and nutrition community. Also, in October, the world's largest fruit and vegetable basket will be unveiled at the Mall of America to generate attention to the "gift of health" and increase awareness toward the 5 a Day message.

The Foundation has sought to form alliances with influential organizations to expand awareness of, and enhance support for, the 5 a Day program. This year, the Foundation has worked directly with the Professional Football Trainers Society, the National Football

League and the National Governors Association on activities promoting the 5 a Day message.

Finally, we are working to generate a consistent flow of information to promote the 5 a Day message. Since the 5 a Day program was launched in October of 1991, more than 2.2 billion print media impressions have been generated! In July 1992 alone, more than 186 million media impressions were registered.

Certainly, the number of media clips does not determine the success of the program. However, media stories do give the program visibility and its message credibility. People and their actions are the key.

Consumers develop an awareness of the 5 a Day message by reading about it in the newspaper or seeing it on television. They place their trust in qualified experts and groups supporting 5 a Day, they listen to dietary advice from health and medical experts and their beliefs are reinforced when they visit their local supermarket and find information about the 5 a Day program. But to be truly successful we have to go beyond just awareness, we have to motivate consumers to actually change their behaviors and start eating five servings a day. This will take time and resources. The Foundation and its members are in this effort for the long haul, and we hope that NCI will be provided with the funds necessary to continue and hopefully expand their support of 5 a Day.

NATIONAL PROMOTION

The 5 a Day for Better Health program has all of the elements needed to reach an incredible number of people. The timing is right for this healthy message and disease prevention program. It revolves around a real issue - diet's role in disease prevention; it's main focus is public education; and it offers sensible motivation for consumers. The real strength of 5 a Day is the endorsement brought to the program through the partnership with the National Cancer Institute.

As mentioned earlier, NCI funded the original statewide program with the California Department of Health Services implementing it. That program's success hinged on the commitment made by retailers and by the fact that its credible health message was of interest to media professionals who communicated it to consumers. The fact that NCI is our partner in the national 5 a Day effort is critical to the program's credibility with the science community, the public health community and consumers across the country. It is a public/private partnership that works and works well.

The volume of publicity and the subsequent increased awareness generated by the 5 a Day campaign is all the more astonishing when

you realize that it stems from a public/private partnership between the Produce for Better Health Foundation which operates on a limited budget and the National Cancer Institute which does not have a budget for paid advertising programs.

Another reason contributing to the program's success is due to the commitment and enthusiasm of all involved. Whether it is in-store displays, health fairs, special events or media outreach, the 5 a Day program and its supporters seek to provide consumers with a memorable and understandable message which can be easily incorporated into their lifestyles.

INDUSTRY INVOLVEMENT

It is a fact - people are more likely to make decisions about what to eat when they are shopping for food. Therefore, the grocery market is an ideal place to reach millions of Americans with the 5 a Day message at the point of purchase. Retailers across the country are aggressively advertising the 5 a Day program and providing consumers with free brochures, easy to follow recipes, using in-store signage, and implementing special events to communicate the message in as many ways as possible.

The 5 a Day logo can be found on grocery bags, buttons, aprons, price cards, and on shrink wrap. The Foundation provides its retail members with camera-ready artwork, ad copy, point of sale materials, consumer education materials, and technical assistance. This all serves to reinforce awareness for the 5 a Day message.

Retailers have bought over 7 million copies of the 5 a Day brochures to give to their customers and hundreds of thousands of signs to place throughout their stores. Combined with advertising, staff time, and other materials, retailers redirected more than \$7 million to promote 5 a Day in the last half of 1992. But that is not all.

In many areas of the country, retailers are going beyond those "passive" promotions and experimenting with interactive events such as food demonstrations, produce tours, classroom demonstrations, and other activities which make a lasting impression on those involved.

Retailers are only half of the story. Fruit and vegetable companies, growers, shippers, commodity marketing orders, state agricultural departments, and suppliers are actively promoting and supporting the 5 a Day program. Through packaging, advertising, merchandising, logos on trucks, cartons and labels, they are getting the message out everywhere they can. These industry members redirected more than \$11 million in 1992 towards promoting the 5 a Day message.

LOCAL GRASS ROOTS OUTREACH

Like retailers, the produce industry, and NCI, state health departments are critically important to the ultimate success of the program because they have a mandate to protect the public's health and to promote positive messages such as 5 a Day. They also have access to an extensive network of county health departments that can relay the message to local communities, and they have the capability to recruit state cancer societies, heart associations, university systems, and other potential partners into the coalitions.

Licensed state health departments are responsible for helping coordinate 5 a Day activities in their state. NCI has officially licensed 27 state health departments to participate. Those states include:

Alabama	Illinois	New Hampshire
American Samoa	Indiana	New Jersey
Arizona	Kansas	New York
Arkansas	Kentucky	North Carolina
California	Louisiana	Ohio
District of Columbia	Maine	Pennsylvania
Florida	Maryland	Rhode Island
Georgia	Massachusetts	South Carolina
Guam	Minnesota	Texas
Hawaii	Montana	Vermont
Idaho	Nebraska	West Virginia
		Wisconsin
		Wyoming

As a member of the Minnesota 5 a Day Coalition, I would like to provide you with an understanding of our broadly-based community coalition and its campaign which was recently launched to encourage Minnesotans to eat more fruits and vegetables.

Our coalition of more than 60 organizations includes the state departments of Health and Agriculture, the University of Minnesota, local public health agencies, a number of professional and trade organizations, the American Cancer Society and the American Heart Association, major media organizations and an array of produce distributors and food retailers.

This broad base of community support is the key to the success of the Minnesota 5 a Day program. We have mobilized all segments of the community to take part in this effort. Helping people make better choices about what they eat is a difficult task, and we need to get everyone involved if we are to be successful. Our broad based 5 a Day coalition provides a way to do that.

Like the national 5 a Day campaign, in Minnesota we will be making use of media messages and conducting grass roots educational activities in communities all across the state.

Activities include state surveys to assess adult intake, attitudes and knowledge about fruits and vegetables; monthly fruit and vegetable demonstrations and samplings in grocery stores; the development of a 5 a Day Idea Kit for use by Minnesota's Community Health Boards in promoting 5 a Day at the community level; focus groups to identify attitudes and behaviors in low income mothers of young children about fruit and vegetable choices; efforts to revise the fruits and vegetable section of the Expanded Food and Nutrition Education Program; and promotion of the 5 a Day message at the Minnesota State Fair.

Our program is a multi-year effort designed to help people make changes in their health-related behavior. PBH and NCI help coalition like ours by conducting broad-based promotion and communication campaigns, providing technical advice, and making tools available with which we can get the job done and the message conveyed. These tools include brochures, artwork, signs, video tapes, public service announcements and "how to" manuals.

Across the country, more Foundation members, health organizations and commodity groups are exploring the feasibility of forming state coalitions. The coalitions are one of the primary keys for communicating the 5 a Day message at the local level and I strongly encourage their formation.

FRUITS AND VEGETABLES FOR ALL

The commitment to encourage all Americans to eat more fruits and vegetables for better health has led to the development of a number of other interesting programs and efforts to provide people with the opportunity to improve their diet. One such project worthy of mention today is known as "From the Wholesaler to the Hungry" or simply, "Produce People Care" which provides fresh fruit and vegetables to charities to help low income people primarily in urban areas.

This charitable food distribution program began in Los Angeles in 1987. The idea was to donate unsold produce that went through the Los Angeles produce market to poor people who needed it in the community. It was a simple concept conceived by long-time produce man, Mickey Weiss. Today, the program is responsible for feeding thousands of people each day throughout the United States and uses no public funds.

Mickey's original idea has had a life of its own and has led to the establishment of a number of similar programs at produce terminals

throughout the country. These programs have all been successful and each is a little different from the original effort in Los Angeles.

Through the Los Angeles program, today more than 1.5 million pounds are donated every month to more than 400 charities. Annually, more than 18 million pounds of produce are donated every year.

Since Los Angeles, the Produce People Care concept has been implemented in Houston in 1989 and today, an average of five million pounds of produce are donated to more than 400 charities every year. Other similar programs are located in Chicago which was established earlier this summer and is already reclaiming more than 50,000 pounds of produce a week which is distributed to more than 500 Chicago land charities.

In San Francisco, the program was established in 1992 and currently contributes more than 60,000 pounds of produce a month. In Baltimore, the program began in January of this year and in its first six weeks of operation, the program average more than 40,000 pounds of produce a week being donated to more than 800 charities throughout the state of Maryland.

In addition, when disaster strikes a region of the country, the fresh fruit and vegetable industry responds. The United Fresh Fruit and Vegetable Association coordinates an emergency services fresh food bank on behalf of the nation's produce industry. The fresh food bank provides fruits and vegetables to victims of disasters who need nourishment in their time of crisis. This emergency system has provided almost 1.4 million pounds of fresh fruits and vegetables to disaster victims since its inception in 1989.

This year, more than 27 million pounds of fruit and vegetables will be donated by the produce industry to charities throughout the country. Thus, through this effort, the health benefits provided by eating more fruit and vegetables is becoming a reality for all people every day. Obviously, we in the produce industry are quite proud of these produce distribution programs, as we are with the 5 a Day campaign.

FUTURE DIRECTION

The 5 a Day program is constantly expanding into new channels to get the message out. The Foundation has recently begun working with the non-commercial/institutional food service industry and we will expand into commercial food service applications early next year. More attention will be focused on frozen fruits and vegetables in the coming year. The Foundation will also be working with NCI to increase the participation by state health departments across the country.

Also, marketing research, planning and materials development for promotions to special populations is being coordinated by NCI. Given NCI's expertise, its communications network to reach special population groups and the limited resources and experience of the fruit and vegetable industry in this area, we look to NCI to assume the lead in this effort to minimize duplication and maximize impact.

It is our hope that the annual national 5 a Day Week will become as well known as the Great American Smoke-Out in years to come. We plan to continue to reach out to other credible groups and experts to work with us to leverage our message. Of course, this includes other governmental agencies.

Children, while not the primary target at this moment, will be crucial to the success of the 5 a Day message in the long run. In the future we hope to reach them at their schools - both in the classroom and the cafeteria, through the media, and, of course, through their parents.

And of course, we will continue retail and communications activities such as we currently use.

CONCLUSION

5 a Day is a nutrition/health message which will stand the test of time. It is health message that is understandable, quantifiable, memorable and, perhaps most of all, it is motivational. It is a message that Americans need to hear. There are many avenues to pursue to get our message out that we have not even begun to utilize. Good ideas and strong enthusiasm are not limiting factors in this effort. What does limit us are financial resources. Resources are needed to get the message out to people.

Everyone who comes in contact with the 5 a Day message seems to come up with a new way to promote it. Given 5 a Day's positive message, everyone seems to want to help promote it, but they need the tools to do so.

We are continuously urging our industry to increase their share of funding and, thankfully, they have responded. However, voluntarily contributing to a proactive effort is new to them and requires some getting used to. They want to see progress and feel that they are not alone in this effort. Continued and increased governmental support for 5 a Day is essential to motivating the fruit and vegetable industry to continue and increase their participation.

We look to NCI for leadership in areas like message development, outreach to special population groups and communications. They have the expertise and experience for developing these types of tools and

the credibility to get their messages heard. Our industry does not have their type of expertise, experience and credibility.

However, the produce industry does have the means to deliver the 5 a Day message to consumers at the point-of-sale and through other channels not readily available to the health community. Together, we are an imposing team.

Yet, we are also in need of support if we are to go beyond just awareness and motivate the public to achieve the Nation's Year 2000 goal of eating 5 servings of fruits and vegetables every day. The Foundation needs the policy support of Congress for the 5 a Day initiative, and our government partners need your financial support.

There are many worthy nutrition and health promotion messages. The difference between many of these messages and the 5 a Day program is similar to the difference of hearing many individuals singing similar songs versus a choir singing the same song.

Mr. TOWNS. Ms. Foerster.

STATEMENT OF SUSAN FOERSTER, M.P.H., R.D., CHIEF, NUTRITION AND CANCER PREVENTION PROGRAM, CALIFORNIA DEPARTMENT OF HEALTH SERVICES

Ms. FOERSTER. Good afternoon. On behalf of the Partnership for Improving the American Diet, I would like to thank you for inviting us here today. Before starting, I would like to acknowledge the help of the U.S. Centers for Disease Control and Prevention which helped to make the project I am going to tell you about possible.

My remarks now will be confined to that project. First of all, what is the Partnership to Improve the American Diet? The national partnership is a new umbrella organization. We have been working together since early this year. We came together initially to see if we could use our combined know-how to create a new approach and a specific plan for changing diet in this country. Now that we have found that we can, we are creating an ongoing entity to implement the plan.

The partnership will be housed by the Association of State and Territorial Officials, a 501(c)(3) organization. It will be different than anything else that has been tried to improve the way Americans eat.

Who is involved? I don't have time to go through the entire list, but you should know there were 36 individuals representing organizations from the food industry, the nonprofit sector, and all three levels of government involved. This includes the people with 5-A-Day, General Mills and Kelloggs, the National Cattleman's Association, Land o' Lakes, Marriott, McDonald's, American Heart, American Cancer Society, Food Research and Action Center, the Kellogg Foundation, the School Food Service Association, and so forth.

The group was convened by the ASTHO and the National Association of County Health Officials and the U.S. Conference of Local Health Officials with units of the Federal Government including USDA, FDA, NIH, NCI, and the Indian Health Service. When we first met in February, no one knew if it would be possible for such a diverse group to work together. Even though theoretically we are all stakeholders in Americans eating better, we said from the start it would be the strength of our ideas and the vision that we could put together, that would determine whether the plan would ever be implemented. You might say that we operated on the field of dreams theory: Build it and they will come.

Why are we working together? I think the reasons that you have been hearing about today are the reasons that we all agree on. We think that dietary change is not happening fast enough. But further, in today's product-driven marketplace, communicating a total diet message really is very, very difficult.

Further, there are few programs to promote healthy eating, and those that do exist are often fragmented. While we do have national health goals, we do not have a national action plan. Achieving the Nation's year 2000 dietary objectives represents a massive enterprise.

Specifically, what is it we want to do? First of all, this partnership is going to involve more organizations working together for dietary change. The plan will work because it aims to shape food con-

sumption in a positive way for all people living in the United States. It will include the public health and agriculture programs that hit the highest need people, but in addition we want to reach all Americans—the three out of four who don't eat enough fruits and vegetables, the nine out of ten who eat too much fat. This is our mandate.

Our plan strives to achieve this in three ways. One, we want to increase public/private partnerships at all three levels—Federal, State, and local.

Second we must stimulate consumer and institutional demand for a mix of healthy food. This is where communications and marketing combine efforts. The food environment is very complex. The government and nonprofit sectors must do better at developing consumer demand, and the food industry must do better with merchandising and providing appealing food products.

Our plan will design strong, persuasive messages for everyone to use. We will apply a mix of communication methods and develop turnkey ideas for consumer level use. We will help partners to conduct cross-promotions, a very powerful sales technique. This set of activities jumps way beyond traditional information and education to complement and build on the communications know-how and muscle of the food industry.

Third, we must enhance educational efforts to a wide variety of people. We see as our first priority American children. To do that, we would propose to work together with a broad array of organizations.

As time goes on, other consumer segments would be added, as would other channels. This would be done in phases. There would be pilot projects followed by widespread dissemination. We think this plan represents the best thinking and has put on the table a paradigm that will work. As far as we know, there are no other specific proposals out there.

Now, why is the partnership different? First of all, we have a specific plan with the combined resources of people and organizations to make a difference.

Second, this partnership will provide one-stop shopping for any organization that wants to do something about healthy eating. We don't have that now.

And third, the partnership represents the complexity of the issue, but it exists for only one purpose. It must show results, be responsive and be accountable. Its existence will depend on success.

The timing is excellent. People are talking about either "reinventing government" or "reengineering the corporation." We all want to use our resources better.

Fourth, we have experience behind us to know how these things can work. With the basis of 5-A-Day, which would be very much part of this effort, we believe we can broaden this movement to the whole diet.

What is needed? First, it is very important that this kind of partnership be supported as a policy imperative by the Federal Government.

Second, there needs to be operating funds. The government cannot go to industry and ask for cooperative efforts if, in turn, it has empty pockets. It must have some staff and some operating funds

with which to do business. You have heard about that with 5-A-Day. That modest government investment, in turn, will leverage the kind of industry dollars that we have been talking about.

And finally, the plan must be executed at the State and local levels as well. That is how it will reach the most people and result in permanent dietary change. You have been hearing about that with the previous panel. We heartily agree; we need now to plan for State and local coalitions. The phenomenal growth of 5-A-Day coalitions at the State level is evidence that this will happen.

In conclusion, our country has made commitments to prevent cancer related to tobacco. We have also made major commitments for State programs in mammography, as you have been hearing. However, there is no similar commitment to dietary improvement.

It is a mystery to me why this is. Possibly it is because appreciation of the role of the diet has been rather late and there haven't been other proposals on the table before now. We in the partnership are working to find them money to do it, but the real question is, how serious are we as a Nation about preventing cancer? Do we want to wait and let nature take its course slowly, as what occurred with smoking, or do we want to jump-start the process and move ahead rapidly?

I think our choices are on the table.

Thank you, Mr. Chairman.

Mr. TOWNS. Thank you.

[The prepared statement of Ms. Foerster follows:]

U.S. House of Representatives
Committee on Government Operations
Human Resources and Intergovernmental Operations Subcommittee

**America's Diet:
Are We Losing the War Against Cancer?**

Testimony of
Susan B. Foerster, MPH, RD
California Department of Health Services

Representing
The Partnership for Improving the American Diet
(A new, cooperative project of
government, non-profit, and food industry organizations)

Washington, DC
September 13, 1993

Susan B. Foerster, September 13, 1993 America's Diet: Are We Losing the War on Cancer?

Mr. Chairman, Members, Ladies and Gentlemen:

On behalf of the Partnership for Improving the American Diet, I would like to thank you for holding this important hearing and for inviting us to tell you about the Project. I would like to acknowledge with appreciation the work of the Planning Panel members who made this Project a success and the support of the U.S. Centers for Disease Control and Prevention, which funded the grant that supported the Project.

Relative to your question 5 about the Partnership, my comments will convey the consensus views that resulted following extensive debate by the Planning Panel. For the three questions concerning the adequacy of efforts by various federal agencies, the Partnership has no position. Therefore, the opinions are my own, based on nearly 20 years working in chronic disease prevention in California. For seven years, I have headed the state health department's Nutrition and Cancer Prevention Program.

With your permission, I would like to submit for the record a recent paper co-authored with my colleague, Dr. Dileep G. Bal (Dietary strategies for cancer prevention, **CANCER 72, 3: 1005-1010, 1993**). It is directly relevant to the critical issues you are examining today.

Let me begin by answering the questions that were asked, in the order that you requested:

1. **Is the federal government, in particular NCI, successfully educating the American people about the importance of diet in cancer prevention?**

As a preface, I would like to acknowledge NCI's early leadership in setting quantitative dietary guidelines for cancer prevention in **Cancer Control Objectives for the Nation: 1985-2000** (1986). Dr. Greenwald was a principal author of that policy. In 1986, NCI made prevention history by going out on a limb and setting specific goals, along with projected reductions in cancer mortality. NCI's early policy leadership in setting specific dietary targets was subsequently upheld by the National Academy of Sciences in **Diet and Health** (1989), by USDA and HHS in **Dietary Guidelines for Americans** (1990), and in the nation's prevention roadmap, **Healthy People 2000** (1990). Unfortunately, the achievement of the NCI objectives depended on a massive national mobilization of effort, which -- due to changes in NCI leadership -- was never implemented.

Now, to the question: The 1980's saw an unprecedented growth in public awareness of diet-health relationships in some sectors of the population, most particularly the more educated, affluent Americans. Public awareness of the dietary measures to reduce risk appears to be much higher the field of heart disease than in cancer. One might suspect

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that this difference is a result of the early leadership and long-standing efforts of the American Heart Association and NHLBI working in tandem on public education and intervention research.

But, education counts only if it results in dietary behavior change. The behavior changes we need are massive: a doubling of fruits and vegetables, a doubling of breads, grains, and cereals, and cutting fat by a quarter. Historically, food habits have changed very slowly. To accelerate the positive shifts, to minimize the negatives, and to bring along all consumer segments, will call for a much more powerful approach than simple education.

The data indicate that we Americans are not improving significantly the way we eat. For example, the year 2000 goal of reducing the percentage of total calories from fat to no more than 30% does not seem to have budged from the 36-37% first measured in 1971, although the sources of fat have shifted toward vegetable oils away from animal foods.

Similarly, the easy year 2000 goal for fruits and vegetables of 5 servings a day is now achieved by only one in four Americans, and the rate of increase appears to be one and one-half percent per year, which will get us there by about the year 2015, or so.

For the dietary fiber goal, otherwise known as 6 servings of grains plus the 5 fruits and vegetables, I don't think we know what's happening. However, in California (where we seem to eat more whole grains and beans than in most other parts of the U.S.) we do know that our progress is minimal.

To summarize, it is unrealistic to expect that one agency of the federal government, particularly one whose charge is principally research and not intervention, can be expected alone to make the kind of sea changes that our nation's dietary goals represent. It will require collaboration of the type rarely seen anywhere, which I will discuss below.

2. Are cancer prevention programs at NCI adequate?

NCI is indeed funding a variety of chemoprevention studies and epidemiologic investigations aimed at better understanding the etiologic underpinnings of various dietary constituents. Further, the decision to fund the Women's Health Initiative is an important commitment.

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However, by this question, I take the meaning to be, are cancer prevention programs aimed at dietary change in the real world adequate? Using this definition, I am aware of only two efforts that NCI is undertaking: *Working Well*, a large collaborative worksite-based research study aimed at blue- and pink-collar workers, and the *National 5 a Day Program*, which is an intervention partnership with the food industry and others, plus a new four-year intervention research program.

Working Well includes multiple cancer risk factors, including smoking, occupational exposure to carcinogens, and early detection, as well as diet. I believe that it is in its final year. I do not know what provisions are being made for technology transfer of the results. This is a critical question, because *Working Well* should have learned a lot about diet, and worksites are an essential site for strong prevention initiatives if we want to put in place effective measures that stem long-term demand for health care.

The *National 5 a Day Program* which I know a little about is growing by leaps and bounds, both in the food industry sector and among state health departments who have the option to act (voluntarily) as the designated lead health authority within each state. In California, we cannot keep up with demand for new program elements, for programs targeted to different consumer segments, and for expansion into different channels.

In my opinion, the *5 a Day Program* intervention is totally inadequately funded to support the demand and the need. It has essentially no funds available either to assist its state health department licensees, for grants to state health departments, or for doing its own program development that could then be made available to states. An unprecedented opportunity to change the way America eats is being unconscionably delayed. I am sure that Mr. Schroeder, President of the Produce for Better Health Foundation, will elaborate from an industry perspective.

Relative to the separate *5 a Day Community Intervention Research Program*, I heartily commend NCI for being the first of the NIH institutes to initiate research dedicated exclusively to studying population-based dietary change. However, like the companion *National 5 a Day Program*, at \$4 million annually for four years for the entire nation, the research component is inadequately funded. A case in point is that nearly 75 institutions competed for the relatively modest funds for nine projects. The lack of funding means that the research is limited in its attention to important target populations, channels, and geographic areas.

It appears that a decision was made within NCI, at least in part due to the recommendations of the Board of Scientific Counselors, not to fund *5 a Day* further for either interventions or for research. NCI sees its primary mission as research, and

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within its prerogative of how that research is defined, the pendulum has swung back to bench science, rather than real world intervention, applications research, and technology transfer. In view of cancer trends and the acute need to curb health care costs by aggressive attention to primary prevention -- especially diet and tobacco control -- NCI's decision to put dietary change programs on a "starvation diet" is hard to understand, especially with a budget totalling almost \$2 billion in FY 92.

3. Have NCI dietary recommendations been adequately integrated into food assistance programs administered by USDA?

USDA has a difficult task. It is very hard for USDA food assistance programs that serve the hungry and otherwise nutritionally vulnerable to dedicate resources to nutrition education and to advocate for dietary improvement when the allocation of resources for such purposes is seen as taking food out of hungry people's mouths. Rather, there is a continuing struggle in the case of WIC to increase caseload and keep administrative costs minimal, which is where nutrition education gets cut, because it is part of administrative costs.

In the school-based Child Nutrition Programs, many foodservice managers are challenged by first of all having to be cost-neutral, in the face of high food and labor costs; by tremendous competition from cheaper, commercial vendors, many of which are fast food; and by the extreme stresses faced by public education systems, including lack of kitchen space and equipment for food preparation, time in the school day for kids to eat, and a lack of priority for something as basic as food and nutrition in the educational curriculum.

For Food Stamps, to the best of my knowledge, there are few linkages between the social services organizations that administer the program and other units of state or local government that might be involved in health-oriented intervention efforts. I believe that at least in part, this reflects a lack of infrastructure in states to work across department lines for dietary improvement.

I believe that the clients served by USDA food assistance programs are more receptive to dietary guidance than is usually realized (for example, our research in supermarkets suggests that Hispanic shoppers are just as likely to look for nutrition information as non-Hispanics.) but at the same time, they are also more influenced by other media, such as food advertisements on television. Therefore, without the advantage of education which usually brings with it better nutrition, these clients appear especially sensitive to the dominant environmental influences, especially food advertising. The \$8 billion annual

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ad budget of the food industry, the majority of which does not promote foods that are needed to achieve the nation's health goals, presents a formidable challenge.

USDA has tried in the past to provide leadership for healthy eating. The *Eating Right Campaign* of USDA's Human Nutrition Information Service was a step in the right direction, but it was never given the support or the resources to succeed. I commend USDA as an agency for always treating food as food, rather than as a collection of chemicals. They have struggled to convey real world skills about how to plan, select, and prepare healthy meals in terms that people understand.

But in other ways, USDA has missed the mark relative to disease prevention.

USDA has been slow to adopt and vigorously promote quantitative dietary guidance that is consistent with NCI's and other health organizations' recommendations. For example, in both 1985 and 1990, the headline statements of the Dietary Guidelines for Americans were directional (e.g., eat plenty of this, low of that, in moderation of something else). Many professionals and consumers did not get past the headlines to read the fine-print about how much of each food group to eat or how to select lowfat, lean, nonfat, and whole grain. The **Food Guide Pyramid** provides a better foundation for communicating with the public, but it does not clearly communicate NCI's low-fat, high-fiber message either.

USDA does not seem to make use of its links with the agriculture community, including commodity marketing boards, and with food processors to apply to dietary change the discipline in which they are expert, namely marketing. If they had, much more would have gone on in USDA in the way of market research to get inside the heads of consumers, including those served by the food assistance programs, which make up sizable and growing proportion of the American marketplace. Much more would have gone on with mass media. Much more would be done with cross-promotions among commodity groups. There would be many pilot projects to test new approaches. There would be more promotion to gate keepers and intermediaries, like school and social service administrators, on behalf of the food assistance programs.

Finally, I believe that USDA must start using its bully-pulpit to trumpet for dietary change. The dietary goals add up to massive shifts in where calories in the American diet come from (away from vegetable oils and toward higher margin plant foods, lean

and lowfat dairy products). From an agricultural perspective, the goals translate to huge increases in sales for "minor crops" (fruits and vegetables), for commodities that are strongly positioned for the healthy eating market, and for companies that provide "added value" by making agricultural products easy for consumers to eat.

Like NIH, USDA is not in a position to change the American diet by itself, even if its constituent food assistance and Cooperative Extension systems at the state and local levels were fully mobilized. The job is too big. However, USDA can meet -- as it must -- the changing needs of its constituencies, namely consumers as well as producers. The way to do it is through partnering within the Executive Branch, with other levels of government such as states and localities, with voluntary and professional organizations, and -- of course -- with the food industry.

4. **What are my recommendations about these issues?**

With the exception of comments concerning the National Strategic Plan to Improve the American Diet, these recommendations are my own and do not represent positions or deliberations of the Partnership.

1. **The federal government should join with us and adopt a sense of urgency about diet and chronic disease prevention.** The way America eats is a root cause of a large share of the disease and health care costs that are overburdening our economy. Estimates are that diet is associated with as much as 35% of cancer and 20-30% of all heart disease, as two examples. The National Partnership states that, *"We believe that healthy eating patterns throughout life are a major force (in the context of overall intervention) in maintaining and improving health."*
2. **Philosophically, federal agencies must dispense with business as usual relative to dietary change, as others outside the beltway are trying to do.** To make the massive shifts in food consumption that will improve the nation's health is vital. The shifts cannot be accomplished with the systems and programs now in place. The development of dietary targets to achieve the year 2000 health goals is an essential first step, but they are not being achieved. New approaches that reach far beyond the federal government -- but are national, state, and local in scope -- are required.

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3. **Take advantage of the fact that the food industry has been applying marketing science successfully to sell Americans food for 50 years.** The food industry is the largest manufacturing sector of the economy. We in the government sector would do well to accept the offered expertise and blend it with our own. Where necessary, we can borrow from the very sophisticated intervention science that has been developed in other fields of prevention. We must not wait for five, ten, or 15 years before all the studies are done to instigate large-scale, smart intervention programs. We must start now.
4. **Support with policy commitment and with funds, the full-scale implementation of both the 5 a Day Program and the National Strategic Plan to Improve the American Diet.** In the short term, encourage federal agencies to redirect existing funds to create a revenue pool for these purposes. Over the long term, establish a 6% set-aside for prevention programs in health care reform, and designate a portion for population-based dietary improvement projects.

The National 5 a Day Program has a proven track record of success. The demand to participate in it is well documented and limited only by resource constraints, not will. It is operational, structured to give partners success working together, and provides a platform for establishing additional partnerships for other areas of dietary change.

For its part, the Partnership has created powerful ideas, its Plan puts forth a totally new paradigm for dietary change, the combination of action steps it outlines is do-able and effective, and -- like 5 a Day -- it has momentum.

The combination of *5 a Day* and the *National Strategic Plan* offers synergy and a precious opportunity to jump-start dietary change. Potentially, with both initiatives in place, measurable consumer improvements may be seen by the middle of the decade.

There are no other proposals on the table.

5. **Use the Partnership as an innovative mechanism to enable units of the federal government to work with others outside government on dietary improvement, help them continue initiatives now in place (such as 5 a Day), and also encourage them to use partnering as an opportunity to "steer, not row" to accomplish the work of securing dietary change.**

No unit of the federal government has responsibility, authority, or resources for comprehensive dietary change. Rather than adding new and possibly unrealistic responsibilities to an existing agency, start fresh and have everyone work through the Partnership.

Based in ASTHO, the new Partnership foundation is an entity with a clean slate. It has no other competing business or mandate, no axes to grind, and no agency turf to protect. Its sole purpose is to facilitate dietary change through partnership and to reflect the will of the partners. That is what it is accountable for. It will act fast. Its continued existence depends on showing results.

6. **Designate a lead federal agency to liaise with the Partnership in order to facilitate dietary change interventions aimed at chronic disease control in states and localities.** The Centers for Disease Control and Prevention has been the major federal government supporter of the National Project. They have liaised effectively with their sister federal agencies. They have hustled. CDCP's mandate is to implement intervention programs and to work with state health departments. Its performance and mandate both indicate that it would successfully continue to steward the Partnership and also to administer the system of state and local parallel partnerships that will help implement the action steps, if long-term federal funding becomes available.
7. **Exercise conscious leadership to combat the same kinds of delays in initiating large-scale dietary change efforts that have plagued other areas of cancer control and resulted in hundreds of thousands of lost lives.** As described in the attached paper, delays in cancer control interventions (Pap testing, screening mammography, and tobacco) have been caused by: scientific compulsion to prove etiology and intervention methods before taking action, the lack of a powerful professional group to take leadership, the absence of a strong profit motive, and diversions, such as other apparently-attractive, technologic, and otherwise silver-bullet solutions. The parallels with diet are striking.
8. **Open the doors of federal policy making groups to applied scientists in public health agencies, the food industry, schools, voluntary health organizations, and advocate organizations, not solely research scientists in academia.** Most particularly, the NCI Board of Scientific Counselors and the USDA/HHS Dietary Guidelines Advisory Panel are critical fora for diet and cancer prevention. Practicing interventionists should be voting members.

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5. What strategies will the National Partnership to Improve the American Diet undertake to achieve dietary change?

The National Partnership to Improve the American Diet is brand new, just completing a six-month planning and formation period. It is different from any other entity that has ever been established to improve the way Americans eat. The National Plan lays out mission, vision, and strategies that will inspire more organizations to become partners and help to accomplish the three major year 2000 national dietary objectives to prevent diet-related chronic diseases. The Project's purpose: To create a new approach to dietary change.

The Partnership grew out of concern closely related to the subject of this hearing. That is, the American diet is not changing in a way that will reduce chronic disease, the public is frustrated by constantly changing and contradictory nutrition messages, there are few programs to promote healthy eating, and efforts are often fragmented. Though interest in diet and health is high, there is no national action plan to turn the situation around. From the outset, the purpose of the partnership was:

"To increase consumption of fruits/vegetables, whole grains, legumes, lean meats, poultry and fish, lowfat dairy and other lowfat foods to achieve the Year 2000 Health Objectives for the nation, including those to control cancer, heart disease, diabetes and other diet-related health problems facing our nation."

The 36-member Planning Panel included recognized innovators and opinion leaders from: agriculture and the food industry, including the four food groups, restaurant and commercial foodservice, and communications; major voluntary health organizations; major professional associations; philanthropy; academe; units of the federal government; and the state and local health department sponsors of the project. All were persons that recognized the opportunity to leverage resources by working together.

Also involved via key informant surveys initially and then by mail throughout the process were 75 additional opinion leaders, including from consumer and advocate organizations, who served as an Advisory Panel. In the initial interviews, we found very strong agreement on the need for a national plan, the timeliness, its utility for multiple purposes, and the innovative process being used to construct it. The Advisory Panel is now reviewing the draft plan. It will be invited to join in implementing the action steps.

The Project was undertaken with the understanding that no one knew if it would be possible to successfully convene a cross-sectoral, multi-disciplinary group that could develop and agree on a potential course of action. We verbalized early that it would be the strength of the ideas and the articulation of common values among the participants that would determine whether the plan would ever be implemented. You might say that the Project operated by the Field of Dreams Theory: "Build it, they will come."

The planning was professionally facilitated using a structured process that has worked for other public-private partnerships, including the National 5 a Day Program. The mission statement that was negotiated in the first meeting reads:

"To shape food consumption in a positive way to promote health and reduce the burden of disease among all people living in the United States."

The partnership goal is to target all the American people, not only those typically served by government partners through categorical public health or food assistance programs or the middle class, health-conscious consumer that make up the "healthy eating" market.

In order to accomplish this, the partners determined that three areas are of highest priority:

- ★ *"Increasing the demand for and providing adequate options for achieving healthy eating patterns."*
- ★ *"Enabling people to make informed food choices."*
- ★ *"Creating public-private partnerships to share responsibility for action."*

The values, or philosophical platforms, that the members of a partnership group would need to live by as they moved forward in the decision process were hammered out. Some of the key points that surfaced were:

- ★ *"We believe that healthy eating patterns throughout life are a major force (in the context of overall intervention) in maintaining and improving health."*
- ★ *"We are committed to effective action, and to making a difference."*
- ★ *"We believe that the foods needed to meet current dietary guidelines should be available to all people of the United States."*
- ★ *"We believe in empowering people to make informed food choices."*
- ★ *"We strive to meet the food and information needs of consumers with clear, credible communications based on consensus guidelines."*
- ★ *"We believe in helping people make dietary changes in a way that will enhance quality of life."*

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Using information gathered from the key informant interviews, the Planning Panel deliberated on the issues a public-private partnership would face, both as strengths and as challenges. Similarly, it examined the external environment in five key areas to assess what trends over the next five years would need to be anticipated. The trends to forecast were social, economic, government/political, technologic, and competitive. Based on those discussions, the Planning Panel created a vision for the year 2000. Here are some highlights:

- ★ *"A comprehensive, coordinated national nutrition initiative will be implemented through partnerships with local, state, and federal governments and the private sector.*
- ★ *"People will think in terms of the overall mix of food to achieve healthy eating patterns, and healthy eating will be considered fun, good tasting, pleasurable, desirable, convenient, and affordable.*
- ★ *"There will be widespread understanding that healthful eating promotes enhanced quality of life and prevents disease.*
- ★ *"Positive dietary change will include those sectors most in need.*
- ★ *"Food and health messages will be consistent, engaging and motivational.*
- ★ *"Producing foods for healthy eating patterns will be a profitable strategy for the food industry."*

To realize the vision, three Key Result Areas (KRA) to achieve by 1996 were established:

- ★ First, the Partnership aims to *"enhance public-private partnerships to carry forth common messages and action steps"*. To do this, the plan must be ratified by organizations (not just individuals), a foundation to house the Partnership must be established, and funds must be raised to staff and provide operating resources for the partnership. A near-future implementation objective is to establish a system to involve state and local parallel partnerships that will work in collaboration with the national efforts.

As a catalyst to action, the Plan calls for creating a major national nutrition forum. A White House Conference on Improving the American Diet, or another similar highly visible consensus event, would bring together participants from all sectors and walks of life to mobilize their participation in activities to improve the American diet. With a nucleus of "innovators" already on board, an energizing, congealing national event would provide the leadership and inspiration to stimulate the "early adopters" to join the action, thereby beginning to reach the critical mass needed to achieve rapid dietary change.

- ★ The second Key Result Area is to *"stimulate consumer and institutional demand for a mix of foods making up a healthy eating pattern"*. This is where communications and marketing come in. Specific objectives are to design persuasive, consumer-driven messages for various target markets that could be used in a variety of formats by all the partners; to apply a mix of communication methods, including multi-media and non-media techniques, celebrity participation, and an "Idea Kit" with ready-to-use ideas and materials, including at point-of-sale; and to engage partners in promotional tie-ins, both within the food industry and among partners from other sectors. This KRA jumps way beyond traditional nutrition education to leverage the communications know-how and muscle of the food industry in moving product.

As a case in point, just two weeks ago one of the partners sponsored an intensive work session with top PR agencies to create consumer messages for major market segments that members of the partnership could use. The *pro bono* contribution of these agencies' time and travel was worth well over \$25,000. There was sufficient interest among the participants that they are considering reconvening to finish the work.

Such partnering has the potential to engage the food industry in social goals. This would make a big difference to health, as the food industry spends \$25 billion annually in promotion and advertising (excluding newspaper ads). With successful experience, increasing proportions are likely to be redirected toward promoting healthy eating.

- ★ The third Key Result Area is to *"enhance education efforts to a wide range of people"*. In this KRA, the partnership reaches beyond the traditional purveyors of nutrition information to expand the number and diversity of messengers advocating for healthy eating. It would build partnerships with organizations that have the potential to influence the food and nutrition environment for specific population segments and use the best channels to reach each segment. This would be done in phases, ideally starting with pilot projects that can be revised, packaged and used widely.

The number one educational priority for the Partnership is children, starting with leadership organizations such as the P-TA, school administrators, school boards, teacher and foodservice groups, the voluntaries, local health departments, and companies that sell food to schools. In the future, other market segments and the appropriate channels would be added, such as community and civic organizations, worksites, health care settings, non-commercial foodservice, and restaurants.

A final element relevant to this KRA is the inclusion of population-based prevention programs within health care reform. If the program that is ultimately enacted does not contain a mandate and funds for dietary improvement programs, then it is likely that this essential prevention strategy will not happen. In addition, many members of the Partnership are also alarmed that individual nutrition care services provided by nutrition professionals such as state-licensed or nationally registered dietitians are not included in present proposals.

A cross-cutting, intentional element in the National Plan is the synergy among all the components. For example, in KRA 3 an objective is to identify a national "champion" whose leadership will inspire other organizations to participate. (For these organizations, dietary improvement is not their main issue, but they will become activated when they see its connection to their central mission and the benefits of partnering.) The spokesperson advocating for the major leadership event in KRA 1 and the "champion" in KRA 3 may be one and the same individual. Similarly, consumer messages and "idea kits" developed through KRA 2 would, in fact, be used by the organizations that implement KRA 3.

Funding and Administration: The principal funding for the planning project came from a one-year grant from the U.S. Centers for Disease Control and Prevention to the state nutrition directors, which acted on behalf of the state and local health department co-sponsors. Smaller amounts of funds were contributed by some units of the federal government, and the industry partners paid their own costs of attending the meetings. These resources were sufficient to complete the planning/feasibility phase.

The Association of State and Territorial Health Officials (ASTHO) here in Washington will provide a permanent "home" for the now-forming partnership foundation. Short-term fundraising is now going on to staff the partnership initially, continue implementing the action steps that can be done voluntarily by the partners, reach out to involve new partners, and begin long-term fundraising.

How will the partnership be sustained and the action plan paid for?

The plan may appear to cost multi-millions. In a way, it will, because it will result in major redirections of existing advertising, promotion, and education dollars, as well as redirected human resources. However, the out-of-pocket cash requirements for partner coordination, research and development, field testing, materials, and evaluation are -- relatively speaking -- modest. The excitement, good will and commitment among the partners have already accomplished what no one thought could be done. With the proven

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energy that 5 a Day has generated, it is clear that, with a small amount of resources, this Project too has a very high probability of success.

The timing will never be better. Government, health care, and industry alike are motivated and looking for new answers and innovations in how to do business. More and more, each realizes that the old approaches aren't good enough and that no one entity can take on such a challenge single-handedly and win. Partnering is the order of the day.

By starting now, within the first three years, remarkable progress will be made. I respectfully urge this Subcommittee to use its oversight authority to encourage substantive federal participation. I hope as well that you personally will become champions for dietary change.

The Field of Dreams Theory works: "Build it, they will come." For dietary improvement, the field has just been finished. **Which of the all-time federal government heavy hitters will come walking through the cornfield?**

On behalf of the Partnership for Improving the American Diet, thank you for the opportunity to share our work.

SUPPLEMENT TO

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Dietary Strategies for Cancer Prevention

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Background. Two-thirds of cancer cases are associated with two lifestyle practices: 35% with the typical American diet, and 30% with tobacco use. In contrast to the field of tobacco control, research and resources dedicated to the field of nutrition have been limited, in part because dietary change has been considered controversial and requires a more complex set of interventions.

Methods. This series of papers reviews the science base underlying diet as a cancer control strategy, including research about diet-cancer relationships, current nutrition policy recommendations, American dietary trends, models of dietary behavior change, and diet in health care delivery. The history of technology transfer of new knowledge into widespread application will be compared and contrasted with other cancer control measures.

Results. There is scientific and policy agreement about three priority dietary goals for the year 2000: increase fruit and vegetable consumption to 5 or more servings every day, increase breads, cereals, and legumes to 6 or more servings daily, and decrease fat to no more than 30% of total calories. Current data do not indicate that these goals will be reached. As yet there is no organized effort, with clearly identified steps, to translate research into practice. The parallel with delays in implementing other cancer control measures, including Papanicolaou testing, mammography, and tobacco intervention, is striking.

Conclusion. Without resources dedicated to dietary modification in the general population, it is not likely that the potential savings of more than 300,000 new cases, 160,000 deaths, and the \$25 billion in associated costs will be realized in the foreseeable future. *Cancer* 1993; 72:1005-10.

Key words: diet and cancer prevention, dietary strategies, cancer prevention and control, fruits and vegetables, fat, fiber.

The history of cancer prevention and control has been characterized by decades of delay between the acquisition of new knowledge and its widespread application.¹

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Three important examples make this point. Perfected in 1943, the Papanicolaou test was not widely used in clinical practice until the early 1970s.¹ Mammography as a screening procedure became available in the late 1950s, but it was not widely promoted until 1985, when, through efforts by the Breast Cancer Detection Program of the American Cancer Society (ACS), its use among white women increased dramatically, from 48% in 1987 to 74% in 1990 (California data).² For tobacco, though the Surgeon General first warned about smoking and cancer in 1964, it was not until the late 1980s that contemporary, comprehensive approaches to smoking control employing multiple strategies drawn from every relevant sector of the environment were being used.³

The human cost of these delays is stunning. An estimated 7,000-10,000 lives were lost annually to cervical cancer between 1943 and the early 1970s.¹ Breast cancer is the second cancer killer for women, killing more than 42,000 in 1988,⁴ and incidence rates are rising.⁵ Lung cancer has become the number one cancer for both men and women, taking more than 45,000 lives in 1988,⁴ with the only intervention being the prevention programs so belatedly being adopted. In each case, active technology transfer was the missing strategy.

Regrettably, the same pattern of delay is observed today in diet and cancer prevention. It was in 1913 that the first study of a diet-cancer relationship appeared. By 1950, associations with alcohol, protective foods, obesity, dietary fat, nutritional status, and carcinogens in cooking had been reported. In the 1950s, the literature began to reflect site-specific relationships.⁶ The science base now numbers hundreds of studies, expert panels have called for dietary changes in the general population (as described below), and an array of strategies has been proposed.⁷ However, like the cancer control methods described above, a critical shortcoming is that no plan is in place to transfer diet-cancer prevention research to practice.

The American Cancer Society Role

The ACS advocates faster progress toward preventing and curing cancer. This panel has an action-oriented philosophy. We hope to provide concepts and informa-

Table 1. A Quick Reference for Diet-Cancer Relationships, Mechanisms, and Cancer Sites*

Dietary component	Role	Hypothesized mechanisms	Sites
Fat	+	May affect cell membrane fluidity, prostaglandins, lipid peroxide radicals, hormone receptors, cell growth, or ultracellular substances Breakdown products may convert to tumor promoting substances or damage colonic mucosa	Colon, breast, prostate, rectum, endometrium
Body weight and calories	+	Fatty tissue may store chemical carcinogens Excess energy may increase cell multiplication or shorten latent period Metabolism of hormones in adipose tissue may contribute to tumor formation and growth	Colon, breast, prostate, endometrium, kidney, cervix, thyroid
Fiber	-	Shortens bowel transit time and may dilute or modify bile and fecal acids May reduce colonic pH	Colon
Fruits and vegetables	-	Acting through various vitamins, minerals, or other plant substances, may promote growth of epithelial tissue Deactivate carcinogens, block formation, or neutralize oxygen radicals and lipid peroxides Inhibit initiation and promotion stages Reverse cancerous changes	Lung, colon, breast, prostate, bladder, oral cavity, cervix, stomach
Alcohol	+	Acts synergetically with smoking for cancers of the mouth, larynx, and esophagus Acts independently through alcohol or other chemicals in alcohol, has separate and multiple effects with poor nutrition Through poor nutrition, also may impair immune function	Lung (with smoking), breast, rectum, oral cavity, esophagus
Charred, smoked, salted, pickled foods	+	Carcinogens or precarcinogens in food, some associated with high temperature and open flames May be effects of salt on the gastric mucosa	Stomach, esophagus

+, positive association, increased intake with increased cancer; -, negative association, increased intake with decreased cancer

* Adapted from the Surgeon General's Report on Nutrition and Health, 1988 191-224

tion that can be used actively, in your roles as scientists and physicians in many different areas of cancer control, but especially application: in the medical care of patients, in ACS leadership, and in policy-making by legislatures, health maintenance organizations, insurance companies, and state health departments.

This seminar reports current knowledge about: diet-cancer policy recommendations; the science base underlying the diet-cancer relationship (Table 1); trends in domestic food consumption related to cancer incidence; a strategic framework for introducing dietary change at the community, state, and national levels; and techniques for supporting patients with making dietary change. Our speakers address each issue more fully, outlining how intervention strategies might be constructed, and emphasizing the role that the ACS might play.

Background of Diet-Cancer Policy and Strategies for Prevention

Analytic reviews of the diet-cancer science base began appearing as early as the mid 1960s. They predicted

that dramatic gains in cancer prevention may be possible through diet. Using lifestyle and environmental evidence, the World Health Organization in 1964 concluded that "the majority of human cancer is potentially preventable." In the late 1970s, Wynder and Gori estimated the proportion of cancer deaths attributable to diet as 40% in men and 60% in women, and a few years later, Doll and Peto concluded that an average was 35% of deaths, varying by site from 10% to 70%.⁶ In 1982, the National Academy of Sciences (NAS) concluded that cancers of most major sites are related to diet.⁸ In 1989, a second NAS panel noted that, in Mediterranean countries with diets like those being recommended for Americans, rates for diet-related cancers are about half those of the United States.⁹

As the relationships between diet and cancer became clearer, numeric targets for dietary change and strategies for intervention began appearing in the scientific and policy literature. The U.S. Senate Select Committee on Nutrition and Human Needs spoke out early, recommending in 1977 that fat intake be reduced to 30% of calories, while carbohydrate should rise to 55%

or more,¹⁰ exactly the same conclusions reached 12 years later by the NAS, among others. In 1985, the National Cancer Institute (NCI) was the first to link specific diet changes prospectively with cancer incidence and mortality. It projected that 35% of all cancer could be prevented with a national diet of 30% or less of calories from fat, 20–30 g of dietary fiber, and more fruits and vegetables.¹¹ It stated that, in just 15 years, a drop of 8% in cancer mortality was realistic, if measures involving other federal agencies, voluntary and professional organizations, state and local health departments, schools, and the food industry were applied.¹¹

By 1989, the NAS had concluded that quantitative dietary recommendations also should be food-specific.⁹ Relative to cancer prevention, they urged: (1) lowering fat to 30% or less of total calories by using fish, skinless poultry, and lean meats; nonfat and low-fat milk products; and less fats and oils; and (2) eating five or more servings of vegetables and fruits, and six or more servings of breads, cereals, and legumes every day. In 1990, the cumulative weight of evidence^{6,9,12} resulted in these recommendations becoming national health goals for the year 2000.^{13,14}

The Science Base

There are two main bodies of evidence underlying current dietary guidelines: animal research and epidemiologic studies (ecologic comparisons, migration studies, and cohort case control). Several prospective clinical trials are in progress or under development.¹⁵ Various dietary constituents are believed to inhibit, initiate, and promote carcinogenesis.^{6,9} The mechanisms through which diet is hypothesized to protect or promote the leading diet-related cancers are highlighted in Figure 1. Our first speaker outlines the latest advances in basic research.

Dietary Trends

Though simple in concept, our national dietary goals nonetheless require significant changes for Americans, namely: a near-doubling of fruits and vegetables, a doubling of dietary fiber, and a reduction by one-quarter or more of fat intake. Food supply statistics and dietary surveys indicate that food consumption has changed slowly over the last two decades, if at all.^{9,12} Therefore, achieving these targets by the year 2000 will require unprecedented acceleration in the rate of dietary change.

Americans have never been better informed or expressed more interest in diet than they do today. However, the food industry is the nation's largest advertiser, spending \$8 billion in 1988, of which the vast majority

promotes foods inconsistent with cancer prevention guidelines.¹⁶ Further, incomplete and distorted messages in the media and in food advertising^{17–19} suggest that current health education strategies are insufficient to support behavior change. Our second speaker reviews the available evidence to tell us where the progress is occurring, and where more emphasis is warranted.

From Bench to Widespread Application

There is as yet no single unifying model of how dietary behavior can be modified in the population at large,²⁰ nor is it clear what combination of approaches works best, or why.²¹ It has been stated by the NAS that

A concerted effort will be needed to make changes in the food supply and in nutrition policy and programs to increase the availability of (healthier foods) in supermarkets and in public eating facilities such as school cafeterias and restaurants. Consideration may need to be given to the most effective means of achieving such modification: through technologic changes, massive public education efforts, legislative efforts such as food labeling, or a combination of such strategies.⁹

Figure 1 displays how one model of behavior change, the stages of change approach,²² can be applied to ACS nutrition activities. This illustrates that both independently and as part of larger national, state, and local coalitions, ACS activities may be effective in stimulating society-wide dietary improvement to reduce cancer risk.

A related initiative is the "5 a Day" program, which was launched by the NCI and the nation's fruit and vegetable industry in October 1991.²³ It builds on the growing research base showing strong associations between lower cancer rates and patterns of higher fruit and vegetable consumption.^{24–27} The program has one simple dietary message, eat five or more fruits and vegetables every day. Strongly supported by the ACS on the national level, many ACS divisions and units are participating. Our third speaker heads NCI's program, which is the first national cancer prevention campaign that attempts to change the way America eats. She describes NCI's approach to translating research to dietary behavior change in the general population.

Medical Practice

Patients are more satisfied when physicians give them guidance they feel they need²⁸; therefore, for some physicians, providing firm dietary intervention may be a practice builder. Although patients say that physician instruction is a powerful motivation to change,²⁹ many

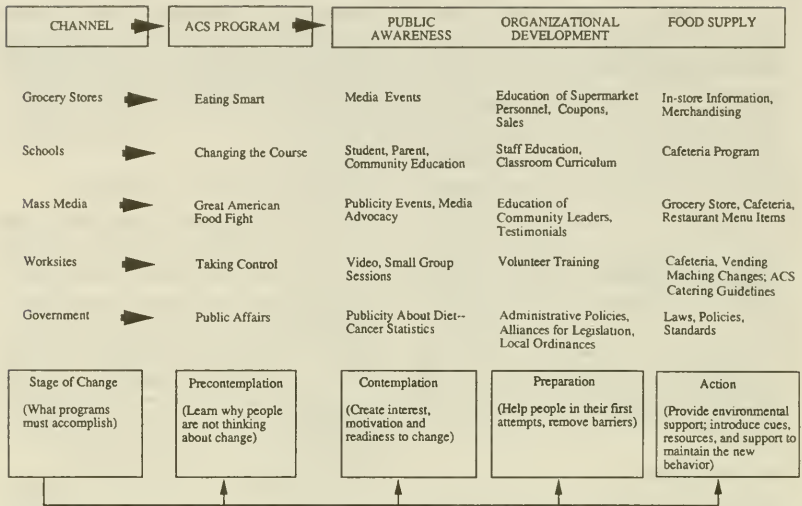


Fig. 1 A framework for cancer prevention through diet, with existing American Cancer Society programs as examples.

practitioners say that dietary guidance is difficult, time-consuming, and largely unsuccessful with patients.³⁰ It could be otherwise. Recent studies have demonstrated that among motivated women, relatively simple group approaches were successful in lowering fat intake not only among the women, but also among their husbands.^{31,32} There were two important results: Women achieved and maintained for 1 year what many consider to be the ideal level of fat for cancer risk reduction.³¹ The husbands, incidental to their wives' more rigorous changes, dropped their fat intake enough to be within two points of the 30% goal set for the year 2000.³² This is all the more remarkable because, for the U.S. adult population at large, there has been no change in fat intake for the last 20 years.⁹ Even more simply, in any practice situation, physicians could easily prescribe five servings of fruits and vegetables every day, at the same time that they advise patients to quit smoking or start a walking program. Our last speaker describes how clinicians can motivate and guide patients to apply cancer prevention dietary guidelines on a daily basis.

Discussion

As has happened with other cancer control measures,¹ it appears that, in the case of diet, "the means of control

has been discovered before the pathogenic mechanisms or precise etiology have been identified." Returning to the opening subject, delays in widespread application, we can use analogies with smoking—in itself a difficult field—to see clearly the many parallels that diet has with other cancer prevention advances.

Etiology

Physiologic and behavioral complexity, as well as social forces, make diet technically difficult to investigate. Food contains many more chemicals than tobacco does, resulting in more possible combinations of physiologic interactions. Since food constituents both protect and promote carcinogenesis, clear relationships are hard to identify. With interstate shipping of agricultural commodities and standardized processed foods, large variations in the types of foods eaten within any one population group are increasingly rare. At the same time, dietary patterns are becoming more varied,³³ and diets are being made up of smaller amounts of more different foods.³⁴ This contrasts with the field of smoking, where exposure is fairly clear: who smokes, how much, what brand, and for how long. In sum, lifelong dietary behaviors are difficult to characterize, in contrast to the easier

task of counting the number of years of smoking and the number of cigarettes smoked per day.

It is interesting to recall that, as was the case with both Papanicolaou tests and mammography, the lack of clinical trials, considered the gold standard in medical research, has been used as a reason that more emphasis has not been given to diet. In the case of mammography, the clinical trial actually delayed implementation of the measure, and it is unlikely that the ultimate outcome following trials was modified.¹

Professional Responsibility

The health impact of diet occurs broadly, across many anatomic sites and in multiple practice specialties; therefore, unlike other cancers in which surgeons or gynecologists have taken the lead,¹ no single, powerful discipline directly experiences the brunt of the impact. Perhaps more to the point, for the great majority of people, the remedies are not medical in nature. Even for high-risk patients, the health care system is not organized or financed to deliver preventive services,¹ such as dietary modification, that in research settings, have proved effective in changing lifestyle behavior. Pharmaceutical and medical equipment companies, traditionally effective in introducing new technologies,¹ do not have a role in promoting healthful foods. A related example is the rapid acceptance of lipid-lowering drugs for heart disease, following heavy promotion by the drug industry, as compared with the measure that is recommended first, namely dietary change without medication.

Profit and Loss

Compared to smoking, the "costs" of modifying diet are more subtle. Indeed, while many advertisers are taking advantage of promotional opportunities made possible by new nutrition labeling regulations, others are taking an opposite tack, by promoting the idea that healthy food is unpleasant, bad tasting, or no fun to eat. These trends are becoming more blatant in television food advertising, such as with ostensibly humorous ads decrying "healthy" cereals, promotion of high-fat snack items and fast food instead of healthier school lunches, and even the abandonment of lean beef promotion in favor of the campaign, "Beef, the way America eats." As with smoking, some segments of the food industry selectively promote unhealthy foods to minority audiences, including advertising, event sponsorships, and scholarships.³⁵ Clearly, to the degree that fats and oils are low-cost fillers in food processing, reducing the fat content of food means that some sectors of the industry could lose profits. Finally, from frozen dinners to frozen dairy desserts to fast food salads,

many of the more healthful foods command premium prices, thereby creating a barrier for much of the American public.

Diversions

Competing for attention and resources are apparently respectable scientific initiatives. Within NCI for a time, the use of biotechnology was supported to develop "designer foods." This involved identifying produce items with high proportions of cancer-inhibiting plant substances and selectively breeding new strains for the mass market, despite the fact that ordinary produce is associated with lower cancer risk.³⁶ The pharmaceutical industry, under the auspices of the New York Academy of Sciences, has promoted vitamin supplements as preventives, although they are not proven to be such.³⁷ Meanwhile, the National Dairy Board's initiative, "Resetting the American Table," seeks to enlist leading culinary and dietetic professionals in an "alliance of taste and health," with which no one would disagree, but which avoids the hard issue of quantitative standards for fat lowering.³⁸

Conclusion

Cancer control history shows that progress has come when the evidence accumulated through research is applied systematically in medical practice and/or public health. For example, with adequate resources for prevention and control activities, smoking rates in California have declined 17% in the last 3 years.³⁹ For a substance whose active principal, nicotine, is as addictive as cocaine or heroin, this is remarkable. (Even now, well funded lobbies defend the public's right to smoke.) By way of contrast, for fruits and vegetables, the annual rate of increase nationally appears to be no better than 1.5%.^{9,40} Clearly, without resources dedicated to its accomplishment, even the modest goal of five fruits and vegetables a day is likely to be met not by the year 2000, but in the year 2015, a decade and a half late.

The value of history is that it helps us understand where we have been, where we are, and the direction we are going. In the field of cancer, control has been a chronically missing link. Control is defined as deliberate, discrete, and organized effort, with steps identified clearly, through which research is translated to practice.¹ Using 1985 statistics,^{4b} a plan that leads to achieving the nation's dietary goals for cancer prevention would yield tremendous gains: 315,000 fewer new cases of cancer, 166,000 avoided cancer deaths, and \$25 billion saved every year. That is what the 35% of diet-attributable cancer cases means in human and economic terms. What also is clear is that significant leadership will be required if cancer control through diet is to realize its potential soon.

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Mr. TOWNS. I thank both of you for your testimony.

Let me begin by asking you, Mr. Campbell, about a similar point that Ms. Foerster made at the end of her testimony. Both of you, of course, are very encouraging examples of private industry working with the government to encourage Americans to make healthy changes in the diet.

In your opinion, what are the problems that we have in terms of getting the message to people that a healthy diet can reduce cancer. Why can't we just get that message across?

Mr. CAMPBELL. Many problems.

Mr. TOWNS. What suggestions do you have for us?

Mr. CAMPBELL. I think the message that is being purported right now—30 percent of calories—is a difficult factor to calculate for many of the public, and if not to calculate, at least to track in their diet. We are setting an example that is not possible for many Americans to monitor in their diet.

The 5-A-Day Program gives them an understandable, achievable message. We back it up with empirical data, knowing that this can prevent coronary disease through dietary intake.

Mr. TOWNS. Ms. Foerster, did you want to add something?

Ms. FOERSTER. I think health is motivational for some proportion of the American public, but not the majority. Food itself means a lot more. The social aspect of food, the convenience aspect of food or the cost are very, very powerful. So I think that we need to appeal to many more of the senses, so to speak, than just intellect in order to persuade people to eat differently.

But more than that, the social norms and the expectations that we have about the kind of food that we serve in the school lunch programs or at work sites, or what is promoted on TV really have to change. It should not be such an uphill battle to always eat defensively.

Mr. TOWNS. Thank you.

I'm curious to know how involved is the Federal Government in both of your programs? What kind of coordination takes place between the Federal Government and the industry people?

Ms. FOERSTER. I will speak wearing two hats. In the partnership I just reported to you, a number of units of the Federal Government in both USDA and HHS did participate on the planning panel; and in fact the major funding for the project came from the Centers for Disease Control. They contributed nearly \$100,000 over this last year to bring people together and to pay for professional facilitation. So they have been very instrumental. However, we still need to look at how, exactly, implementation of the plan would occur with the Federal Government partners.

On the State level, I direct the California 5-A-Day campaign, and we coordinate very closely with the National Cancer Institute. We have a steering committee made up of industry members in California. But we do not receive any Federal support. My department is redirecting moneys from our prevention block grant to support our 5-A-Day and our project LEAN [Lowfat Eating for America Now] activities.

Mr. CAMPBELL. We are doing similar things in Minnesota. I found that much of the NCI money has been earmarked into research projects and to the grant projects, which are valuable. We

understand that. However, a small portion of the budget goes into promotion. So we, as the industry, have taken the lead in creating as many promotional media opportunities as we possibly could.

And very similar to what happened in California, I formed a coalition with the State health department in Minnesota without any Federal funding whatsoever, and we have created a working network, doing very positive things within that State involving the health department, the department of epidemiology, school of public health, as well as the American Cancer Society and all the other related people within the trade to create 5-A-Day events within the State. And it has been quite successful, to the point where the State of Minnesota even appointed a part-time person to just oversee the 5-A-Day activities of the State health department. That is a half-time job.

I am presently involved with trying to do fund-raising within the State to generate a promotional activity that would raise enough funding to elevate that to a full-time job and go to the State health department and say, we as an industry feel that is valuable enough that we would like to contribute half of the cost of that employee to promote the 5-A-Day Program.

If NCI were able to do something as simple as \$20,000 per State, which is \$1 million, they would have a similar effect with a person in each State implementing 5-A-Day. Then, when the research grants and funding expires, you have this magnificent data base to work on. That is how you have a structure to implement some programs.

Mr. TOWNS. It makes a lot of sense to me.
I yield to my colleague.

Mr. SANDERS. Just a few quick questions.

First of all, congratulations, both of you, on the excellent work you are doing. Out of curiosity, Mr. Campbell—again, I am far from an expert on these issues—is there a difference in nutritional quality between fresh vegetables and frozen and canned vegetables?

Mr. CAMPBELL. In nutritional quality, I would say no.

Mr. SANDERS. You would say no?

Mr. CAMPBELL. No. Canned and frozen have high nutritional value as well.

I am not a food chemist; OK, there may be some chemical reactions that that food undergoes in the processing procedure, but I don't think it inhibits the nutritional value of the food. They contain the same nutritional properties.

Mr. SANDERS. Ms. Foerster, do you have a view on that?

Ms. FOERSTER. Your question points out the small differences that we try not to make with the public, we do not want to encourage people to choose between a high beta carotene and a low beta carotene vegetable. Basically what we are trying to convey is: All fruits and vegetables are beneficial. There are minor differences in the content of certain of the less stable nutrients, like vitamin C, folic acid, and so forth, but the point is the American public is not eating a fraction of the fruits and vegetables it should be eating, so its splitting hairs to quibble about which foods are marginally better.

We do know that eating more fruits and vegetables correlates markedly with low cancer rates. That is the primary message.

Your point also brings up that we have complicated the message for people not only with fruits and vegetables, but with all areas of diet as well. We need to cut through that complexity and communicate with people in a much more real way.

Mr. SANDERS. I promise you I am ignorant of the issue, but is the point of view you express widely held or are there differences of opinion in terms—

Mr. CAMPBELL. On nutritional value?

Mr. SANDERS. Yes.

Mr. CAMPBELL. Well—

Mr. SANDERS. Or is that the generally accepted point of view?

Mr. CAMPBELL. I am not sure it is as widely understood as it should be, that canned and frozen have equal nutritional value. The other thing that seems to make a difference is cooking methodologies.

Mr. SANDERS. That is right.

Ms. Foerster, in your testimony, your written testimony, you refer to NCI's early policy leadership in setting specific dietary targets, but you go on to add that the achievements of the NCI objectives depended on a massive national mobilization of effort which, due to changes at NCI leadership, was never implemented.

Can you explain what you mean by this?

Ms. FOERSTER. In 1986, the NCI released a report which laid out cancer control objectives through the year 2000. In it, they laid out their quantitative dietary objectives, which we heard about earlier. They also went on to say work sites need to be involved, health insurance companies, supermarkets, so forth. However, there was no plan of action to make this happen, and nothing did happen.

There are ebbs and flows of focus on prevention that seem to happen within the Institutes of Health, and with NCI specifically. And the ebb flowed away from primary prevention and the public health approach.

I would like to say, giving credit to NCI, that 5-A-Day exists because of the vision that occurred at NCI at that period of time, when nine public health departments were given funds for capacity building in cancer prevention. That was how we got our start. That was how the 5-A-Day prototype in California was funded. So it is very clear to me that this kind of investment does bear fruit down the road. But we haven't had this help a second time; those capacity building grants were never offered again.

Minnesota, incidentally, also had one of the nine grants. And I think that it was the foundation for their advanced work in the nutrition field today.

Mr. SANDERS. Are you optimistic that some positive changes are going to happen soon?

Ms. FOERSTER. No, I am not, sir. From what I understand, the leadership at NIH sees cancer prevention at a much more molecular level. I think there is a conceptual "black hole" in research pathways between molecular research and what then happens in communities. Further, it seems to me there is often a turf struggle—not so much in the field of nutrition, because the people are working together, but conceptually there is a turf struggle about which agencies of the Federal Government are responsible for getting the benefits of research transferred to widespread practice in

the real world. And right now, in the field of diet and health, I don't believe anyone is responsible, nor is there a mechanism or an entity that we States, localities, or voluntaries, can go to for working through these problems and finding solutions. That's why we are trying so hard to create one ourselves.

Mr. SANDERS. I gather then, you are sympathetic with the thrust of what we have been discussing here today, coordinating efforts and getting more money into prevention and so forth?

Ms. FOERSTER. Of course. Otherwise nothing will happen.

Mr. SANDERS. I just want to thank both of you for your excellent work. Thank you very much for coming.

Mr. TOWNS. Let me just say, I thank you for your testimony. I would like to just indicate that we will hold the record open for Members' statements, because some of our Members were at the White House and were not able to attend this morning.

At this time, I would yield to Mr. Sanders.

Mr. SANDERS. This is one of the most exciting and important hearings I have attended since being in Congress. I want to thank you and the committee for doing an excellent job.

Mr. TOWNS. Thank you. Let me just say that cancer prevention and control hold the greatest hope for reducing the incidence and mortality rates of cancer in this country and for saving the lives of half a million Americans each year. Primary prevention is where we must start to truly win the war against cancer. We seem to be hustling backwards, spending money in areas that are not producing much in return.

The message must be loud and clear. Americans must realize they can reduce the risk and prevent many cancers. Americans have to hear this. Otherwise, cancer will continue to wreak the havoc that it does on many Americans. Many lives could be saved if we just could get the prevention message across.

Let me thank all the participants for their testimony. I think we have learned a lot; and we recognize that we have a lot of work to do.

The hearing is adjourned.

[Whereupon, at 1:30 p.m., the subcommittee adjourned, to reconvene subject to the call of the Chair.]

APPENDIXES

APPENDIX 1.—PREPARED STATEMENT OF HON. STEVEN SCHIFF

Government Operations Subcommittee
Human Resources and Intergovernmental Relations
September 13, 1993

Hearing

America's Diet: Are We Losing the War Against Cancer?

Opening Statement of the Honorable Steven Schiff
Ranking Minority Member

THANK YOU VERY MUCH, MR. CHAIRMAN. THANK YOU FOR CALLING FOR THIS HEARING. IT IS A MOST IMPORTANT SUBJECT. AS A NATION, WE HAVE OVERLOOKED THE SIGNIFICANCE OF GOOD NUTRITION TO OUR OVERALL HEALTH. WE HAVE WORKED DILIGENTLY TO INFORM OUR CITIZENS OF THE HEALTH PERILS OF SMOKING. NOW WE MUST BEGIN TO BRING THAT SAME RESOLUTION OF PURPOSE TO THE CAUSE OF EATING PROPERLY.

I LOOK FORWARD TO THIS TESTIMONY TO LEARN HOW THAT MESSAGE IS BEING DELIVERED AND HOW WE MAY BE OF HELP IN THIS BATTLE TO DEFEAT CANCER.

AGAIN, MR. CHAIRMAN. THANK YOU FOR CALLING THIS HEARING.

APPENDIX 2.—NCI'S RESPONSE TO SUBCOMMITTEE INQUIRY

September 28, 1993

Questions and Answers
Rep. Edolphus Towns (D-NY)
Chairman, Subcommittee on Human Resources and
Intergovernmental Relations

for the
Hearing on Diet and Cancer Prevention
September 13, 1993

1. What is NCI's position on diet and cancer prevention? Is there a link? If so, please state specifically the extent of the link between diet and cancer prevention. What foods are the greatest threat to human cancer? What foods have the greatest preventative effect against cancer?

Experimental evidence and epidemiologic studies, especially studies of migrant populations and international correlations, continue to provide evidence that strongly suggest dietary factors contribute to a substantial portion of human cancer. General dietary patterns, nutritional status, specific foods and food groups, vitamins and minerals, and food preparation methods are suspected to be involved in enhancing or reducing the risks of various cancers.

However, there are few projections of the independent effect on cancer deaths based on improvements in diet alone. In addition, no projections have been made of the effect of altering all the constituents of diet that are considered to influence risk for cancer. Current available research shows that diets low in fat and high in fiber, fruits, vegetables, and grain products are associated with reduced risks from many other cancers, such as cancers of the prostate, oral cavity, lung and stomach. In 1981, Richard Doll and Richard Peto completed a report entitled "The Causes of Cancer: Quantitative Estimates of Avoidable Risks of Cancer in the United States Today." This report stated that "cancer is largely an avoidable disease, but with some important exceptions, there is frustratingly poor evidence as to exactly what are the really important ways of avoiding a reasonable percentage of today's cancers." The clearly understood "exception" was tobacco use: the more troublesome area was diet. Sunlight and asbestos were two other factors mentioned. It was estimated that as much as 35 percent of cancer might be related to dietary components. Earlier, Wynder and others provided similar estimates. In 1992, Doll gave a possible range about his estimate of 20 to 60 percent of cancer as related to diet.

There is strong evidence to suggest that a reduction in the percentage of calories from fat to 30 percent or less, an increase of dietary fiber, and an increase in the consumption of fruits and vegetables to five or more servings per day could substantially reduce the incidence of several cancers. More specific information can be found below.

Dietary Fat -- Diets high in fat have been linked to increased risk of various cancers, particularly post-menopausal breast, colon, prostate and, possibly, to cancers of the pancreas, ovary and endometrium. There is substantial, but not conclusive, evidence that the total fat and saturated fat are particularly important for breast and colon cancers, and polyunsaturated fat also may be important for breast cancer. Since dietary fat intake is highly correlated with calorie intake, the question has been raised as to whether fat intake or calorie intake is the major dietary factor affecting cancer risk. However, fat is a dense source of calories, so a diet high in fat tends to be high in calories.

Because the role of diet and nutrition in relation to breast cancer remains unclear, the National Cancer Institute (NCI) is a major participant in the trans-National Institutes of Health (NIH) Women's Health Initiative, which is studying the role of exogenous hormones, a low-fat eating pattern, and dietary supplements in the development of cardiovascular disease, stroke, and several cancers. NCI is also continuing its study of the feasibility of changing diets in female minority populations.

Dietary Fiber -- Increasing evidence suggests that diets high in fiber-containing foods are associated with a reduced risk for cancer, especially cancer of the colon. A few studies have also shown a reduced risk for cancers of the breast, rectum, oral cavity, pharynx, stomach and other sites, with diets rich in fruits, vegetables and grain products. These foods contain fiber as well as other nutrients. Since plant foods are rich sources of other nutrients and vitamins and are usually lower in fat, it has not been possible to determine whether the protective effect is solely the result of dietary fiber per se.

Fruits and Vegetables -- Populations which consume diets low in fat and high in fruits and vegetables have a cancer risk lower than that for populations whose dietary patterns are weighted in reverse. Fruits, vegetables and grains contain a number of nutrients including carotenoids, vitamin A and vitamin C. The cancers for which there is evidence of a protective effect include lung, colorectal, breast, oral, esophageal, stomach, pancreas, uterine cervix and ovary. For most cancer sites, individuals with low fruit and vegetable intake had about twice the risk of cancer as those with high intake. However, a major review of the epidemiologic literature found that the beneficial association between fruits and vegetables and decreased cancer risk was primarily for epithelial cancers of the respiratory and digestive tracts.

Key Dietary Factors by Site -- Lung: The primary risk factor for lung cancer is tobacco smoking. The major dietary behavior found to influence lung cancer risk after considering the influence of smoking is the consumption of fruits and vegetables. Among the many micronutrients in fruits and vegetables, evidence is strongest that consumption of fruits and vegetables rich in carotenoids may reduce risk for lung cancer. This information should be particularly useful for former smokers, since it may provide a way to more rapidly reduce the risk toward that of a non-smoker.

Key Dietary Factors by Site — Breast: The major risk factors for breast cancer are family history of breast cancer, age, and a number of factors related to a woman's reproductive history. The strong association found between dietary fat and breast cancer in ecologic studies is less strong among case-control studies, has not been supported by many (though not all) prospective cohort studies, and is generally present only for post-menopausal onset cancers. However, the prospective studies have not been able to address whether very low fat intake, or fat consumption in the distant past or very early in life, might markedly reduce risk for breast cancer. Recent research suggests that foods rich in some types of dietary fiber may also reduce risk for breast cancer. It is important to note that most studies clearly distinguish between premenopausal and postmenopausal breast cancer. This is done because of the relative importance of some specific risk factors for pre- versus post-menopausal breast cancer are markedly different. Premenopausal breast cancer is believed to have a larger genetic component, while postmenopausal breast cancer is believed to have a greater environmental, including dietary, component.

Key Dietary Factors by Site — Colorectal: Evidence continues to consistently demonstrate that diets low in fat and high in fiber, fruits, vegetables and grain products are associated with a reduced risk of colorectal cancer. A NCI dietary intervention trial has been initiated to determine if such diets reduce the occurrence of adenomatous polyps, an early precursor to colorectal cancer. In addition, studies suggest that calcium may play a protective role in colon cancer.

2. What are NCI's specific goals with respect to its diet and cancer prevention programs and research? Is there a particular number or rate of decreased diagnosed cancers that NCI would like to achieve? If so, how close are we to reaching this objective? With respect to the objectives of "Healthy People 2000", where are we in the war against cancer and diet and cancer prevention?

The Healthy People 2000 Cancer Objectives related to diet aim to reduce fat intake to 30 percent or less of calories and to "increase complex carbohydrate and fiber-containing foods in the diets of adults to five or more daily servings for vegetables and fruits and 6 or more daily servings of grain products." While changes in the American diet have been made in the direction of these goals over the last 20 years, those changes have been modest. Much more drastic modifications will need to be made if these targets are to be reached. NCI is striving to communicate this dietary recommendation through its novel public/private partnership, 5 A Day For Better Health Program, which is described in detail in Question 5.

The data on whether fat intake has declined over the last couple of decades are uncertain. The National Health and Nutrition Examination Surveys (NHANES) indicate that fat intake remained steady at about 36 percent of calories from the early 1970's to the end of that decade. In contrast, the Nationwide Food Consumption Surveys (NFCS) and other related surveys of the United States Department of Agriculture (USDA), which span the period from the mid 1960's to the late 1980's, suggest that total fat intake declined, from 42 to 36 percent

of calories, during that time. A collective analysis of data from 171 independent studies conducted in this country support the NFCS trends, indicating that fat intake rose, from about 34 percent of calories in the 1930's, to a high of about 42 percent of calories in the late 1950's, then fell to about 36 percent of calories from fat in the early 1980's. Regardless of whether the decline in fat intake is as steep as the NFCS data would suggest, or as nearly flat as the NHANES data imply, all of the data currently available suggest that fat intake is still too high as a percentage of calories and that any progress toward decreasing them has been slow. It is clear that nutrition educators and public policy makers have much to do if the country is to achieve its objective of reducing fat intake to 30 percent of calories or less by the year 2000.

Fruit and vegetable intake have recently been examined using data from the 1991 baseline survey for the 5 A Day For Better Health Program and the 1989 Continuing Survey of Food Intake by Individuals (CSFII). Only about a quarter of United States adults consume the recommended five or more servings of fruits and vegetables per day. One half to two-thirds of the persons in all age/sex groups do not have at least a single serving of fruit each day. The percentages not having at least a single serving of vegetables are smaller (ranging from six percent for older men to 40 percent for young children), though they increase considerably for some age/sex groups if French fries are not counted.

Intake of fruits and vegetables appears to be positively related to income and education. Other important factors are smoking status, the number of servings of fruits and vegetables one thinks one should eat for good health, whether or not one has been in the habit to eat lots of fruits and vegetables since childhood, and whether one likes the taste of fruits and vegetables.

According to national food supply data, potatoes contribute more to vegetable usage than any other single food. Over the last 20 years, fresh potato use has been steadily declining, while French fried potatoes consumption has been rising. Currently, over half of the potatoes grown in this country go into making French fries and potato chips.

Fruit and vegetable use on a pounds per capita basis has been rising only modestly over the last two decades. If the country is to achieve the objective of eating five or more servings per day, current consumption will need to nearly double over the period of the 1990's. It is clear that a strong intervention will be needed to spur demand for fruits and vegetables.

A comparison of data from the 1977-78 NFCS with those from the 1989-90 CSFII show some promising trends in the intake of other foods which have an impact on fat and fiber intake. Consumption of whole milk has decreased 35 percent while that of low-fat and skim milks has increased 122 percent; consumption of frankfurters, sausages and luncheon meat has declined 10 percent; and consumption of cereals and pastas has risen 43 percent.

Data from the 1987 National Health Interview Survey (NHIS) Cancer Risk Factors Supplement show that when Americans were asked what foods to eat or drink more of to help

prevent cancer, the most frequently mentioned food group was vegetables, followed by whole grains or fiber, fruit, and lower fat meats. When asked what foods to eat or drink less of to help prevent cancer, the most frequently mentioned food group was higher-fat meats, followed by fats, alcohol, and sweets or snacks. Food additives were also frequently mentioned. Knowledge that eating more whole grains and fiber and less fat could help prevent cancer increased among Americans as educational level increased. Data from the 1992 NHIS Cancer Risk Factors Supplement, which should be available at the end of 1994, will allow for an assessment of trends related to knowledge, beliefs, attitudes and practices.

3. Please provide NCI's budget for all research, contracts, project grants, intramural and extramural activities on primary cancer prevention for fiscal years 1987 through 1994. Please delineate these activities by title, duration, funds allocated, the number of scientific and technical personnel involved, the stated goals of each project and the results to date.

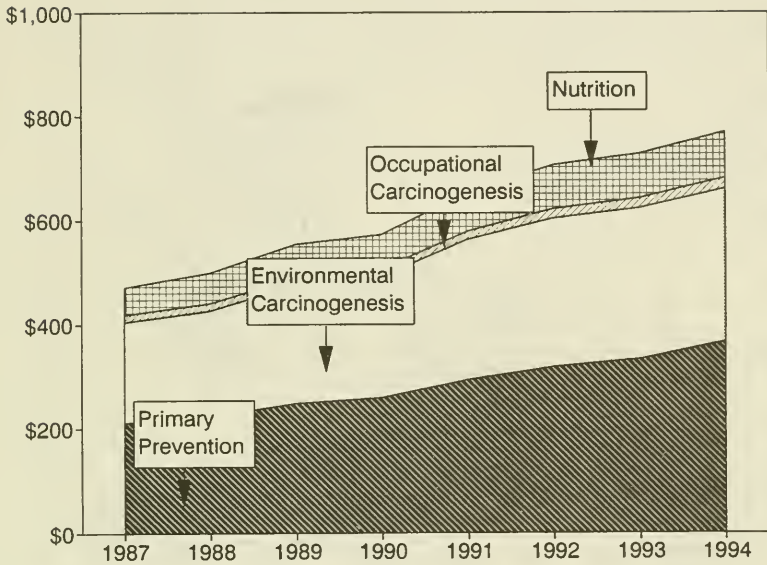
NCI defines primary prevention as those research activities designed to yield results that are directly applicable to the identification of risk, and to interventions to prevent disease or the progression of detectable but asymptomatic disease. This definition is consistent with that used by the Public Health Service to define prevention research.

Attached please find tables showing NCI's expenditures in primary prevention and other areas of interest to the Subcommittee for Fiscal Years (FY) 1987-1994. It is important to keep in mind that these figures do not include basic, cross-cutting research that likely will yield information that will advance our knowledge of the relationship between nutrition, diet, and cancer. Much of the detailed information you requested for individual contracts, grants, and intramural projects currently is unavailable and would require several months of intensive staff effort to provide. Given your time constraints, I regret that we are unable to provide all of the information you requested herein. Additional detailed information is available for review in the files of the House Appropriations Subcommittee on Labor-HHS-Education.

4. Please provide NCI's budget for fiscal years 1987 through 1994, for all research, contracts, project grants, intramural and extramural activities on environmental contaminants and industrial carcinogens in the food supply. Please delineate these activities by title, duration, funds allocated, the number of scientific and technical personnel involved, the stated goals of each project and the results to date. Additionally please state NCI's position on the claim that environmental contaminants in fat, and not fat itself, contributes to cancer?

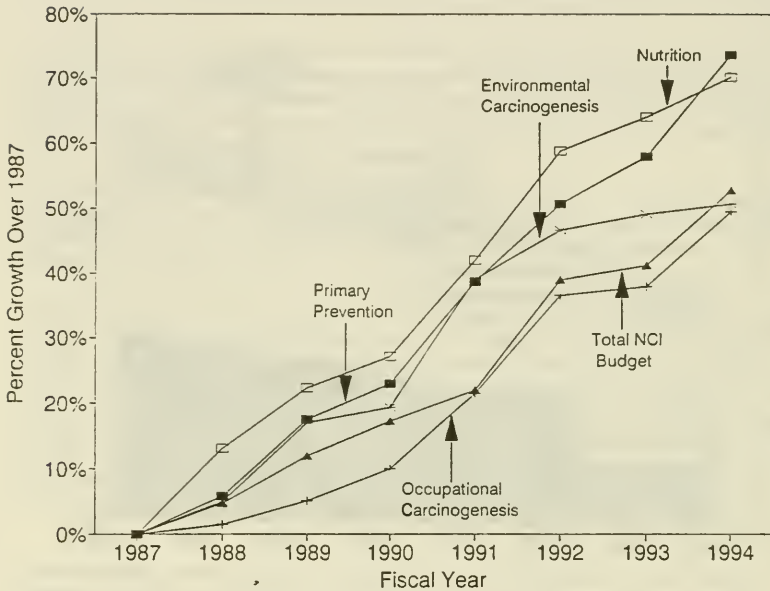
Please refer to the tables provided in response to Question 3. It is important to keep in mind that these figures do not include basic, cross-cutting research that likely will yield information that will advance our knowledge of the relationship between nutrition, diet, and cancer. Much of the detailed information you requested for individual contracts, grants, and

National Cancer Institute
 Selected Areas of Research
 (dollars in millions)



	<u>Primary Prevention</u>	<u>Environmental Carcinogenesis</u>	<u>Occupational Carcinogenesis</u>	<u>Nutrition</u>
1987.....	\$211.4	\$194.6	\$14.0	\$52.7
1988.....	223.5	204.0	14.2	59.6
1989.....	248.4	227.8	14.7	64.5
1990.....	260.0	232.3	15.4	67.0
1991.....	292.9	270.4	17.0	74.8
1992.....	318.3	285.0	19.1	83.7
1993 Estimate.....	333.9	290.0	19.3	86.4
1994 President's Budget...	367.0	293.0	20.9	89.7

National Cancer Institute
Selected Areas of Research
Percent Growth Over 1987



Percent Growth Over 1987

	Primary Prevention	Environmental Carcinogenesis	Occupational Carcinogenesis	Nutrition	Total NCI Budget
1988.....	5.7%	4.8%	1.4%	13.1%	4.7%
1989.....	17.5%	17.1%	5.0%	22.4%	11.9%
1990.....	23.0%	19.4%	10.0%	27.1%	17.2%
1991.....	38.6%	39.0%	21.4%	41.9%	22.0%
1992.....	50.6%	46.5%	36.4%	58.8%	38.8%
1993 Estimate.....	58.0%	49.0%	37.9%	64.0%	41.0%
1994 President's Budget...	73.6%	50.6%	49.3%	70.2%	52.7%

National Cancer Institute
Selected Areas of Research
(dollars in millions)

	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993 Estimate
Total, Prevention	\$314.7	\$333.6	\$367.8	\$414.5	\$448.7	\$481.7	\$536.7	\$597.7	\$660.0	\$666.2
Primary Prevention	171.4	176.6	194.4	211.4	223.5	248.4	260.0	292.9	318.3	333.9
Nutrition	50.1	45.2	46.2	52.7	59.6	64.5	67.0	74.8	83.7	86.4
Cancer Causation	276.1	305.9	318.6	373.5	407.5	434.8	456.2	507.0	545.1	552.9
Detection and Diagnosis	63.2	71.8	82.1	103.7	102.7	110.2	108.3	117.6	134.8	137.4
Treatment	340.0	360.6	359.7	437.3	468.5	511.6	544.2	522.8	611.0	633.8
Cancer Biology	216.7	235.9	250.7	271.6	270.3	283.2	283.1	299.6	318.9	322.9
Total, NCI	\$1,081.5	\$1,177.9	\$1,210.3	\$1,402.8	\$1,468.4	\$1,570.3	\$1,644.3	\$1,712.7	\$1,947.6	\$1,978.3

Note: The above figures for selected areas of research do not add to the NCI total.

intramural projects currently is unavailable and would require several months of intensive staff effort to provide. Given your time constraints, I regret that we are unable to provide all of the information you requested herein. Additional detailed information regarding NCI's research on environmental contaminants and industrial carcinogens is available for review in the files of the House Appropriations Subcommittee on Labor-HHS-Education.

Experimental evidence has identified several compounds, including naturally occurring chemicals, in foods that are carcinogenic, such as mycotoxins (especially aflatoxins and sterigmatocystin), several nitrosamines, hydrazines, and heterocyclic amines. The latter occurs as a result of cooking meat at a high temperature. NCI is conducting and supporting studies in the Northeast and other parts of the United States that are evaluating a number of environmental factors that may contribute to the etiology of breast cancer. Among these studies are the role that organochlorine residues, including DDT and its metabolites, and PBBs (polybrominated biphenyls) may exert. Although DDT, a fat soluble compound, was banned in the United States in 1972, citizens are still exposed to trace amounts in the food supply. However, if one eats less fat, the intake of DDT or any organochlorine contaminant will also be reduced.

Another area of investigation includes studies on the heterocyclic amines (HAAs) formed as a result of cooking meat at high temperatures. Nineteen different HAAs have been identified and of those tested to date, all are carcinogenic in rodents. One of these, called PhIP (2-amino-1-methyl-6-phenylimidazo[4,5-*b*]pyridine) causes only colon and breast tumors in rats. The role of PhIP in the etiology of human cancer, especially breast and colon cancer, with and without high levels of fat, is under investigation.

5. Please describe the different interactive research and projects grants for (i) nutrition and cancer prevention, (ii) programs aimed at educating the American people about the importance of diet in preventing cancer, and (iii) the Five-A-Day for Better health Program. Please include the amount of funds actually allocated (not proposed) for each program or grant, the number of personnel involved, duration, the stated goals of each project and the results to date.

Please refer to the tables provided in response to Question 3. It is important to keep in mind that these lists do not include basic, cross-cutting research that likely will yield information that will advance our knowledge of the relationship between nutrition, diet, and cancer. Much of the detailed information you requested for individual contracts, grants, and intramural projects currently is unavailable and would require several months of intensive staff effort to provide. Given your time constraints, I regret that we are unable to provide all of the information you requested herein.

NCI's 5 A Day For Better Health Program was developed to test strategies to help Americans eat a minimum of five servings of fruits and vegetables every day. In FY1993, NCI awarded nine 4-year grants to institutions in Alabama, Arizona, Georgia, Louisiana, Maryland,

Massachusetts, Minnesota, North Carolina, and Washington, for a total of about \$4 million in FY1993. A brief description of each project follows:

Massachusetts-Dana-Farber Cancer Institute.

This study is designed to test the efficacy of a worksite model for promoting "5 A Day". The worksite-based intervention will promote individual dietary change and environmental support and will focus on the role of family support in changing eating habits. The worksites are 24 community health centers that serve high-risk, low-income communities which will be randomized into 3 groups: worksite and family intervention, worksite intervention only, and control conditions.

Minnesota-Minnesota Department of Health.

This is an elementary school-based intervention designed to increase consumption of fruits and vegetables among school children through: food service environmental changes, classroom curricula, family involvement, and industry and media support. A total of 34 schools from one urban school district will be randomly assigned to intervention and control conditions.

North Carolina-North Carolina Department of Environment, Health, and Natural Resources.

This church-based program aims to increase fruit and vegetable consumption among black adults through a media campaign and educational sessions, and by increasing availability of produce at food functions in the church and increasing social support for dietary change. Ten counties in the state, each with five recruited churches, will be randomly assigned to intervention and control groups.

Maryland-University of Maryland at Baltimore.

This multifaceted community-based intervention program targets low-income women in the WIC (Women, Infants, and Children) program. WIC is USDA's Special Supplemental Food Program for pregnant women, infants and children. The study will use a randomized crossover design to assign 16 WIC sites to intervention and control conditions. Intervention strategies include 1) nutrition education, including WIC paraprofessional counseling, and use of Cooperative Extension agents, 2) print materials, and 3) family and community-based interventions including recipe solicitations, a Farmer's Market coupon program and supermarket programs.

Georgia-Emory University.

The "Gimme 5" project is a school nutrition education curriculum designed to increase fruit and vegetable consumption among 4th and 5th graders by increasing the availability and

preferences for produce and by improving food preparation skills and parental outreach. A total of 16 schools will be matched and randomly assigned within pairs to intervention and control conditions. All schools will receive the media and grocery store components. The schools targeted with intervention will receive the curriculum, school food service, newsletter for parents included with homework and videotapes.

Alabama-University of Alabama at Birmingham.

This school-based intervention targets 4th graders and their families with the 5 A Day message to increase fruit and vegetable consumption through student and parent education, industry involvement, and an environmental component that entails the development and placement of posters in classrooms. To evaluate the randomized, controlled design of the intervention, dietary behavior of 864 children in 24 grade schools will be measured.

Arizona-Arizona Cancer Center.

The worksite-based Health Peers Program targets blue collar workers in the public sector to increase consumption of fruits and vegetables, increase awareness and understanding of health benefits of the dietary change. This study will compare the impact of interpersonal networks of peer educational programs at worksites to traditional worksite wellness programs that use impersonal communication channels and will evaluate the persistence of this impact on a population of blue collar workers in 10 large public sector employers. In a matched pair design, all 10 worksites will initially receive the traditional program, the 5 A Day Worksite Wellness Program. After 9 months, and continuing the traditional program, a Health Peers Program will be randomized to half of each of the matched pairs of worksites.

Louisiana-Tulane University Medical Center.

The goal of this school intervention is to increase consumption of fruits and vegetables by high school students through student workshops, curriculum activities, media and marketing activities that target schools, and parental involvement. A cohort of high school freshmen will be followed longitudinally until the senior year. A matched pair design will be used to identify 12 eligible schools within the city Archdiocese, then randomize the schools to intervention and control conditions. Food service directors will be trained in food purchase, menu planning, and marketing.

Washington-Fred Hutchinson Cancer Research Center.

This is a worksite-based behavior change program that incorporates environmentally and individually oriented interventions to increase consumption of fruits and vegetables. A total of 28 worksites with cafeterias will be randomized to intervention and control.

6. Are any of the programs under questions three through five targeted to low-income or minority populations? If so, which ones? If not, why? Why was funding cut for the "target audience" project under the Five-A-Day program? What impact will this have on achieving the objectives of the Five-A-Day program?

NCI has developed several research and outreach projects targeted toward minority populations. These are described in detail in the NCI Special Actions Committee Report related to minorities, the underserved, and persons aged 65 and over (which previously has been provided to Subcommittee staff). The NCI Office of Cancer Communications has developed communication channels with minority and low-income populations, and in that vein has recently developed two new publications. The "Down Home Healthy Cookbook: Family Recipes of Black American Chefs Leah Chase and Johnny Rivers" has been published by NCI in cooperation with Project LEAN of the American Dietetic Association and the National Heart, Lung, and Blood Institute. Its use is being pilot-tested with a network of 8 organizations serving the Black community. The Ethnic and Low Literacy Nutrition Education project was developed as part of a research grant, and is currently being reviewed prior to clearance through the PHS Nutrition Policy Board.

Funding levels for specific initiatives depend on several factors, many of which are unknown at the time a project is initially conceived. When a project concept is submitted to the Divisional Board of Scientific Counselors, it is submitted with optimal funding levels. It is generally expected that this level will change based on appropriations levels and budgetary commitments. The concepts are designed to anticipate that if more funds are available NCI will have the flexibility to add funds. We recognize we may not have the resources to fund projects at optimal levels.

The 5 A Day grants have been made to 9 institutions for a period of 4 years, consistent with the original planned annual budget of \$4 million. Within available funds, however, certain efforts to evaluate program implementation of the public/private partnership, and interim surveys to measure behavior change, will no longer be conducted. Instead, an overall project evaluation will occur during the final project year, when a final survey will be funded.

7. To what extent, if any, is NCI coordinating its research efforts involving diet and cancer, with the FDA, USDA, the National Center for Health Statistics and other federal agencies that are also conducting research on this? Does NCI have a formal information distribution network between agencies for reporting the results of its findings? If not, why? Is the joint database on carotenoids values of foods between USDA and NCI completed? What is NCI's objective in establishing this database? What other joint databases are being planned or are in operation?

The role of dietary factors in cancer prevention has been assessed in epidemiologic and animal studies, and more recently in currently ongoing dietary modification clinical trials. However, additional and more specific knowledge, especially concerning bioavailability,

pharmacokinetics, safety, toxicity, and mechanisms of action, will lead to more definitive conclusions and provide more precise guidance about the ways to reduce cancer risk. To further define those parameters, the NCI has established cooperative research efforts with the USDA Beltsville Human Nutrition Research Center and the Food and Drug Administration (FDA). Over the past decade, clinical nutrition and special safety studies have focused on dietary fat, fiber, beta-carotene, vitamin C, selenium, alcohol, and food preparation methods.

The NCI participates in many trans-NIH and interagency nutrition information distribution networks through representation by membership or liaison representatives for the many collaborative interagency nutrition activities at the Department of Human Services (DHHS) level and at the Federal level. The nutrition activities include the development of nutrition research policy, preparation and review of trans-NIH and interagency nutrition-related documents, planning technology assessment and consensus conferences, and information dissemination and exchange.

Examples of the trans-NIH activities, collaborative activities, collaborative interagency activities at the DHHS level and the Federal level follow:

NCI-Specific Activities

NCI and USDA researchers are collaborating on a project designed to assess fruit and vegetable intakes for the purposes of monitoring the health objective. NCI investigators are directing the effort; USDA investigators are providing a mechanism by which the fruit and vegetable components of mixed foods can be accounted for. The results of this study will provide the first estimates of the number of servings of fruits and vegetables consumed by children and the most comprehensive estimates for any age group.

NCI and USDA researchers are also collaborating on a project which will determine the portion sizes of foods commonly eaten. This project is being formalized with a memorandum of understanding between the two agencies. This study will provide data which will be useful in developing dietary guidance, improving food frequency questionnaires, and monitoring food safety concerns. NCI researchers have solicited information from FDA regarding how data for this project might best be presented for their use. Dr. Greenwald also serves on the FDA's Food Advisory Committee.

NCI researchers have participated in a National Center for Health Statistics (NCHS)-sponsored workshop during which Federal, state, and university researchers drafted consensus statements on nutrition monitoring and tracking the year 2000 health objectives. In followup to that workshop, NCI has taken lead responsibility for conducting an in-depth workshop related to monitoring fruit and vegetable intakes and preparing the consensus document on that issue.

NCI has collaborated closely with NCHS in developing and fielding the 1987 and 1992 National Health Interview Survey Cancer Risk Factors Supplements. Contained within the

survey these two years was a 60-item food frequency questionnaire, questions regarding use of vitamin and mineral supplement use, and questions related to knowledge and attitudes about diet and cancer. The 1987 data have been analyzed for the total U.S. population and by important demographic characteristics such as race/ethnicity, age, education and income. These data will be compared to data obtained in 1992 to measure trends in dietary factors related to cancer prevention and control. Staff from NCI and NCHS meet regularly via the NCI/NCHS Coordinating Committee to discuss issues pertaining to both organizations, such as data collection, reporting standards, and coding requirements. NCI continues to collaborate and help fund the NIH/NCHS long-term followup study of respondents to the first National Health and Nutrition Examination Survey (NHANES-I).

Trans-NIH Activities

NIH is the major agency within the Federal government that supports research and training in nutrition as it relates to health maintenance, disease treatment and prevention, and human development throughout the life cycle. Nutrition education and technology transfer are also integral parts of NIH's nutrition research programs. In 1988, the NIH established the Division of Nutrition Research Coordination (DNRC), in the Office of the Director, to expand NIH's goals to coordinate nutrition research programs and training, avoid duplication of research efforts among Institutes, Centers and Divisions (ICD's), and disseminate nutrition information uniformly. The coordination activities of the DNRC include coordinated trans-NIH activities, collaborative interagency activities at the DHHS level and collaborative interagency activities at the Federal level.

At the NIH level, the DNRC coordinates nutrition activities through the Nutrition Coordinating Committee (NCC) and its Nutrition Education Subcommittee. The DNRC represents the NIH in its collaborative nutrition activities at the DHHS and Federal level and relies extensively on the expertise of these two committees. The NCC plays a key role in the development of nutrition research policy at the NIH. The NCC consists of representatives from 13 institutes including NCI and four centers at the NIH. Additional NIH offices and other agencies of DHHS and USDA have liaison representatives to the NCC. Other NIH office liaison representatives include the Clinical Center, Office of Communications, Nutrition Education Subcommittee, National Library of Medicine, Office of Legislation and Program Analysis, Division of Research Grants, and Division of Computer Research and Technology. Interagency liaison representatives include the Substance Abuse and Mental Health Services Administration (SAMHSA), Centers for Disease Control and Prevention (CDC), FDA, Health Resources and Services Administration, NCHS, DHHS Office of Disease Prevention and Health Promotion, and the USDA.

The NCC also sponsors many conferences and workshops in nutrition. In addition, the NCC sponsors scientific seminars to coincide with its regular meetings. Speakers represent the academic community, NIH and other Federal agency scientists, and representatives of professional organizations.

The NCI is represented on the NCC Nutrition Education Subcommittee whose major responsibility is to review nutrition education publications written for the public to assure institute-wide scientific accuracy and consistency in providing dietary guidance information. Other activities include the identification of mechanisms to improve nutrition education for health professionals and the public, and to develop and implement nutrition programs and activities directed to NIH employees.

Collaborative Interagency Activities at the DHHS Level

Collaborative interagency nutrition activities at the DHHS level are conducted through the Nutrition Policy Board and its committee on Dietary Guidance, and the DHHS Task Force on the Nutrition Objectives for the Nation.

The Nutrition Policy Board facilitates the exchange of information on DHHS nutrition activities, provides advice and counsel to the Secretary of DHHS on major nutrition policy issues, and serves as the focal point for nutrition policy matters with other Federal agencies as well as non-Federal agencies and organizations. Members include the NIH (DNRC), FDA, CDC, SAMHSA, Health Resources and Services Administration, Indian Health Service, Administration on Aging, and Administration for Children and Families.

The Nutrition Policy Board's Committee on Dietary Guidance coordinates DHHS activities that offer dietary guidance for healthy American populations. The committee ensures Departmental consistency on dietary guidance, facilitates consistency of dietary guidance information from all Federal sources, and exchanges information on ways to improve effectiveness of Federal dietary guidance publications. In addition to the Nutrition Policy Board membership, this committee includes liaison members from the NCI, the National Heart, Lung and Blood Institute and the USDA Human Nutrition Information Service.

The DNRC/NIH and FDA served as co-leads on the DHHS Task Force on the Nutrition Objectives for the Nation. The year 2000 objectives were prepared and released with the publication Healthy People 2000: National Health Promotion and Disease Prevention Objectives. The DNRC/NIH and several institute members (including NCI) participated on the NIH Task Force on the Nutrition Priority Area Year 2000 Health Objectives for the Nation and were involved in the implementation phase of the nutrition objectives and are also involved in tracking progress towards achieving the objectives. Other member agencies include CDC, Health Resources and Services Administration, Indian Health Service, NCHS, and DHHS Office of Disease Prevention and Promotion. Liaison members include American Public Health Association, Association of State and Territorial Public Health Nutrition Program Directors, Department of Defense, and the USDA.

Collaborative Interagency Activities at the Federal Level

The Interagency Committee on Human Nutrition Research (ICHNR) was established to improve coordination and increase the effectiveness and productivity of Federal agencies engaged in nutrition research. The committee coordinates the collection, compilation and dissemination of information on nutrition research including the Human Nutrition Research and Information Management (HNRIM) System. The HNRIM System is a unique computerized database and data retrieval system that contains information on all nutrition research and research training supported by the Federal government. The NCI and other NIH ICD's provide annual updates to the HNRIM System which is available for purchase by the general public.

The ICHNR has three subcommittees: Subcommittee on Nutrition Monitoring Research, Subcommittee on the HNRIM System and Subcommittee on Isotopes in Human Nutrition Research. In addition, the ICHNR organizes and sponsors the Biennial Conference for Federally Supported Human Nutrition Research Units and Centers. This meeting serves as a forum for information exchange and a stimulus for research collaboration among agencies. The NCI participates in these activities through NIH (DNRC) membership. Other members include FDA, USDA, National Science Foundation, Agency for International Development, Department of Veterans Affairs, National Aeronautics and Space Administration, Office of Science and Technology, Department of Defense, and Department of Commerce.

The Interagency Board for Nutrition Monitoring and Related Research (IBNMRR), serves as the Federal focus for the coordination, management and direction of Federal nutrition monitoring activities. The Board oversees the effectiveness and productivity of nutrition monitoring efforts of the National Nutrition Monitoring and Related Research Program which includes all federally supported surveys on human nutrition and food consumption and surveillance of the food supply. The required activities of the IBNMRR include: reviewing progress on implementation activities in the 10-year comprehensive plan, delivering biennial reports on policy issues to congress, and delivering periodic scientific reports that describe the nutritional and related health status of the population to Congress.

To achieve its goals, the IBNMRR has three working groups: Survey Comparability, Federal-State Relations and Information Dissemination and Exchange, and Food Composition Data. The NCI participates in the working groups and is represented at the DHHS level by the NIH/DNRC. Other DHHS members include SAMHSA, CDC, NCHS, FDA, Health Resources and Services Administration, and Indian Health Service. Other agency and department members include the Agency for International Development, Environmental Protection Agency, Department of Energy, Department of Defense, Department of Labor, and Department of Veterans Affairs.

The Committee to Coordinate Environmental Health and Related Program was established by the Assistant Secretary for Health to coordinate and promote the exchange of environmental health information, to provide advice, for review purposes when needed, and to serve as the

focal point within DHHS for environmentally related issues. NCI and other NIH institutes are members of this committee, as is FDA and various FDA centers, the CDC, the Indian Health Service, and other agencies. Issues on diet, environmental agents and cancer are appropriately discussed at meetings of the CCEHRP committee and its various subcommittees.

The carotenoid food composition database developed jointly by the NCI and USDA contains values for the five most commonly occurring carotenoids in fruits and vegetables. The carotenoid database provides the specific carotenoid content for 2,458 food items and is available from the NCI on disk as an ASCII file.

Numerous epidemiologic studies have shown that populations that consume high amounts of fruits and vegetables have a reduced risk of cancer of most sites, particularly epithelial cancers of the alimentary and respiratory tract. The evidence for the link between fruit and vegetable and cancer risk often points to carotenoid-rich foods, for example carrots, tomatoes and dark green vegetables. However, the importance of carotenoids and other constituents of vegetables and fruits has not been adequately explored. Attempts to understand the relationship between fruit and vegetable intake has been hampered by the paucity of food composition data on the specific carotenoids. This newly developed food composition carotenoid database can be used to estimate dietary intakes of individual carotenoids in the U.S. population and to examine the relationship between individual and total carotenoid intake and disease incidence.

NCI has supported studies on the development and improvement of analytical methods for the quantification of dietary fiber in foods. Foods that provide significant sources of dietary fiber in the U.S. diet are being analyzed for total dietary fiber and the major dietary fiber components. Data are being used by NCI and USDA to establish a comprehensive dietary fiber compositional database. This database will provide a very useful tool for estimating the dietary fiber intakes of individuals and population groups and should further the understanding of the role of dietary fiber in cancer prevention and control. Development has begun on a heterocyclic amine database based on foods and their preparation in a collaborative arrangement between NCI, USDA and laboratories within the Division of Cancer Etiology.

8. What assistance is NCI providing to integrate NCI's research and knowledge about diet and cancer prevention into federal programs? Is NCI working with the USDA in applying the principles of the Five-A-Day program to food assistance programs like school lunch, WIC and food stamps?

NCI works with other Federal agencies in a variety of ways to integrate its research and knowledge into other Federal programs. Please refer to Question 7 for further details.

The 5 A Day grant at the University of Maryland will be working within a WIC population. In addition, the grantees working with the school-based populations will become involved with the National School Lunch Program. As both the WIC and school lunch program are USDA food assistance programs, all of these research intervention efforts are performed cooperatively with the USDA. If the research results from these grants indicate these interventions are effective, the results could be applied through these programs nationally.

NCI, in collaboration with the American Cancer Society (ACS), has developed a Nutrition Education for Youth program, "Changing the Course," which will revise both the elementary and secondary curriculum, and food service manager's guide, to increase student awareness of the need for more fruits, vegetables, and whole grains in their diet. ACS is distributing the program nationwide; currently, the Kaiser Foundation is funding a 2-year demonstration project at four sites in Connecticut, Florida, Oklahoma, and Michigan. Results are expected in Spring 1994.

9. Please provide the subcommittee with a chart in the same form as Annex A, identifying NCI's research thrusts for each year since 1987.

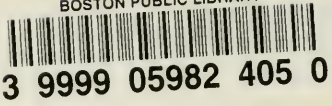
Within your time constraints, the attached charts could not be reproduced in the format you requested. However, data from 1987 actual through 1995 request is included in chart form.

10. Will the USDA coordinate its food and consumption survey with NCI's proposed longitudinal survey of behaviors related to diet, weight, and physical activity? If not, what is the reason for having both agencies conduct independent surveys?

There are no plans to link these two surveys, as they are both designed to serve different purposes. However, to the extent that they both provide data on various aspects of the American diet, they will be complementary.

The USDA Nationwide Food Consumption Survey is designed to provide national estimates of food and nutrient intake at a given point in time. In order to obtain such information, trained interviewers must conduct in-depth assessments of all foods and beverages consumed in the last 24 hours. Attaching additional in-depth questions related to weight and physical activity would be too great a burden to the respondent, as response rates diminish considerably with the length of the interview.

NCI's proposed longitudinal survey, on the other hand, is designed to follow the same individuals over time in order to identify individuals making changes in the areas of diet, weight, and physical activity. Thus, it is incompatible with a cross-sectional survey conducted at a single point in time. It will be unique for a national survey in that detailed data will be collected simultaneously on behaviors related to diet, weight, and physical activity. In order to keep the dietary portion of the questionnaire constrained, it will differ from the NFCS in that questions will be asked about dietary *behaviors*, rather than the



specific foods eaten on a particular day. The purpose of the longitudinal survey is to monitor risk-related behaviors, rather than to estimate intakes of specific foods and nutrients.

USDA and NCI coordinate their efforts in the development of these surveys. NCI staff have commented on the household questionnaire for the NFCS and have let USDA know what NCI's use of the data would be. Likewise, USDA has commented on a draft of the questionnaire for the proposed longitudinal survey.



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